

100-BUNGALOWS

Of Frame and Masonry Construction

SECTION 1.

FRAME CONSTRUCTION

EXTERIORS OF SIDING, SHINGLES AND STUCCO



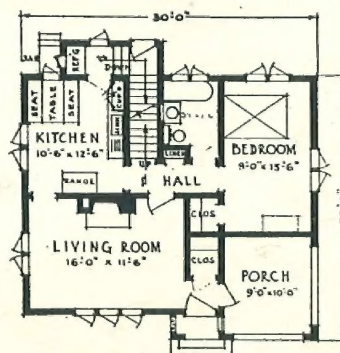
ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 3-A-2

ORIGIN OF THE MODERN BUNGALOW

THE bungalow got its name from India, but it got its style and its plan and everything about it that makes it liveable from our own American architects. In India it is a lightly built structure for residence with verandas on all four sides and a widely projecting roof. Many will recall bungalows with these characteristics that were so common in this country some years ago.

But the idea of a one story house is by no means restricted to India. One story houses have been built in European countries for centuries. In France and England they called them cottages. In fact, we called our own small houses by this name until very recent years. The cottages of the Europeans have influenced our small house design strongly. Our own architects have made much of the intimacy and charm, the qualities of home, which the cottagers of the Old World put into their homes.

Our architects have not failed to realize how different is our scheme of living, how essential that the arrangement of the house



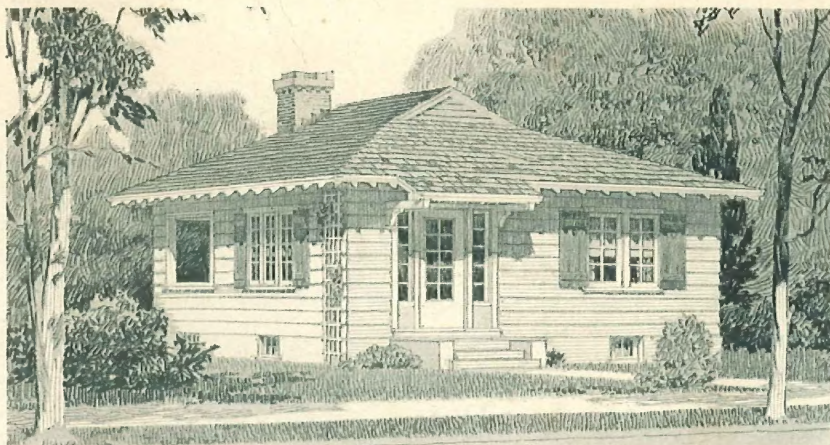
Distinguished for its architectural beauty. In the second story is an extra bedroom and large storage space.

conform to the way the housewife does her work. The forms of walls and roofs, doors and windows, have been adapted to our use. The plan of the house is as American as the Star Spangled Banner.

The plan is an adaptation of most of the

accommodations found in two story dwellings to an arrangement in which most of the rooms are in one story. In well planned bungalows, there must be a distinct separation between living and sleeping quarters. A bungalow in which one goes into bath room or bed rooms directly from living room or dining room is illy conceived. To achieve this necessary separation between the two parts and still to maintain economy of construction and saving in space requires skill. That is the architect's work.

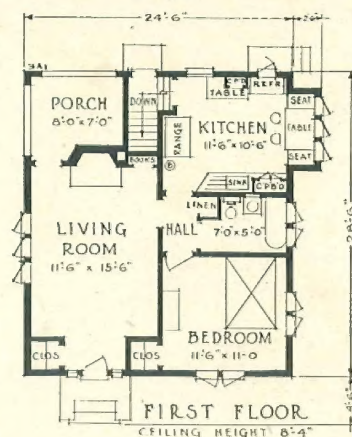
The bungalow may and often does represent the least expensive form of house, but in certain types of bungalows rooms are made to ramble out pleasantly, enclosing court yards or patios, and then costs mount up, as they must. Bungalows with extended foundations and much roof area necessarily are more costly. In this book we have shown both types—one for the man whose funds are limited and one for the man who can afford to spend more. Here are shown basementless houses and others with basements, a wide variety for choice.



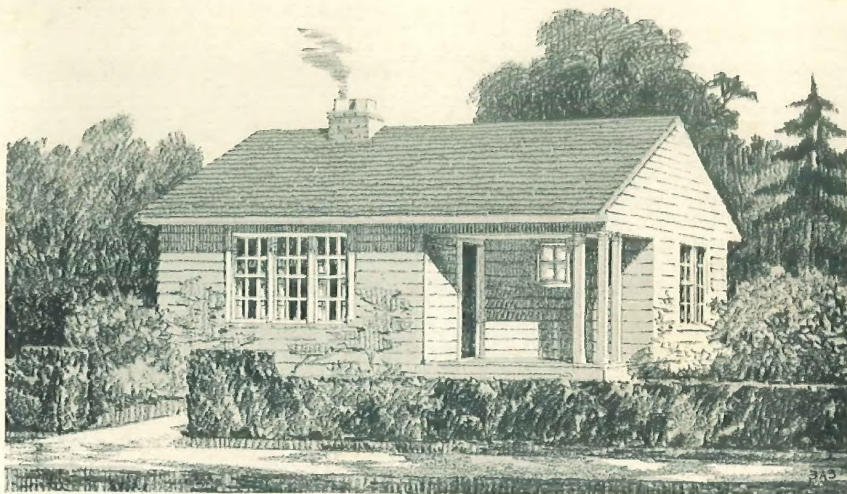
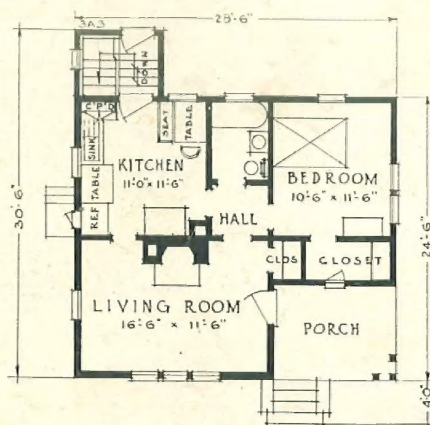
A LITTLE KINGDOM OF YOUR OWN

*A Group of Small Detached Homes Providing
Apartment Equipment*

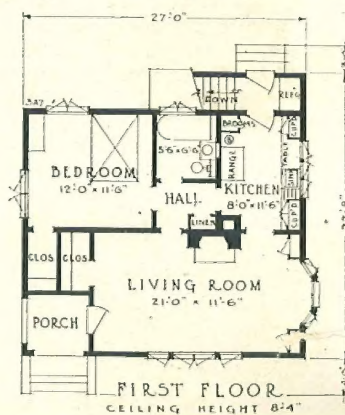
DESIGN 3-A-1



DESIGN 3-A-3



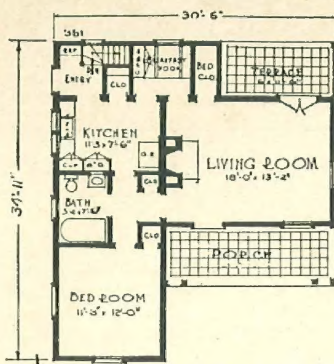
DESIGN 3-A-7



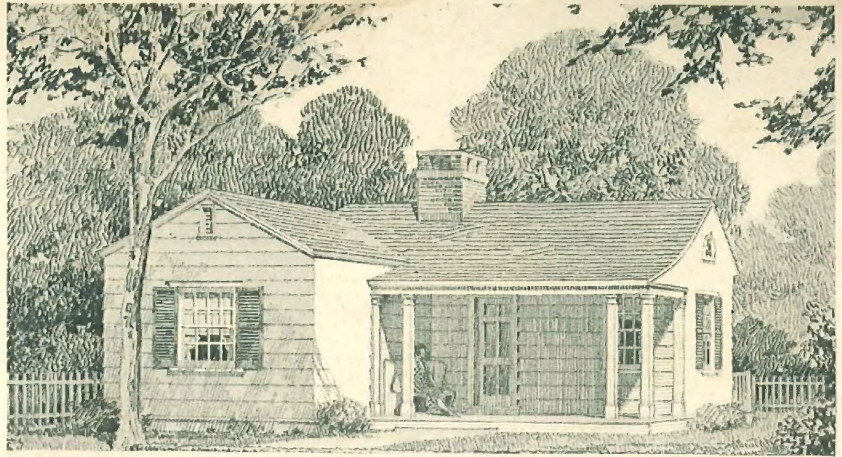
The walls, openings, and roof have been skilfully modeled to get fine balance. Additional decoration is unnecessary. Living room of generous proportions, beautifully lighted with large windows.



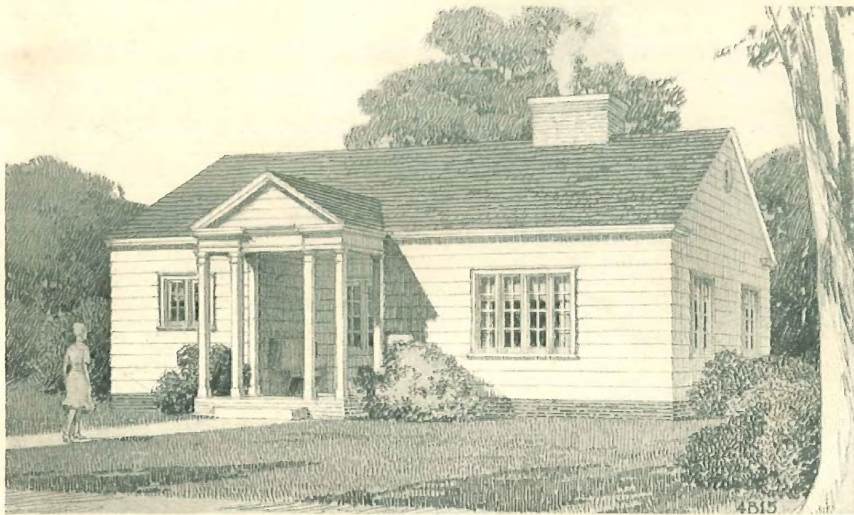
DESIGN 3-B-1



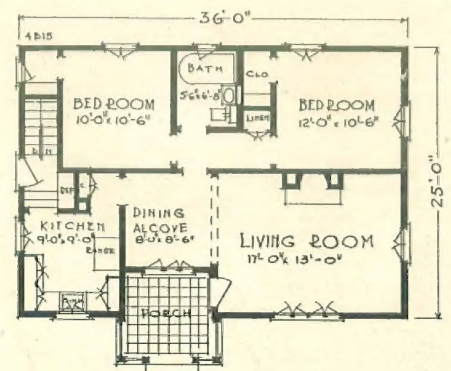
A plan replete with luxuries; fire-place, dining alcove, closet bed, many storage closets—the conveniences of an apartment in a small house.



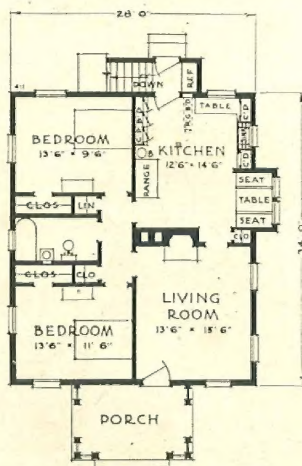
Small in Size but Large in the Resources of Home Making



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 4-B-15



Four main rooms, dining alcove, bath, and closets, all on one floor. An arched beam opening makes living room and dining alcove practically one room.

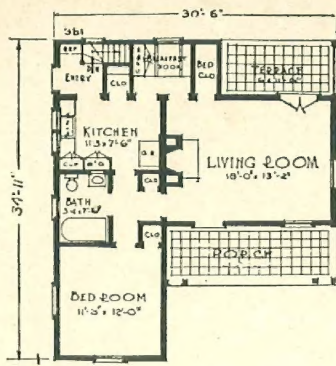


Shutters would greatly improve the appearance of this house. The drawings call for them.

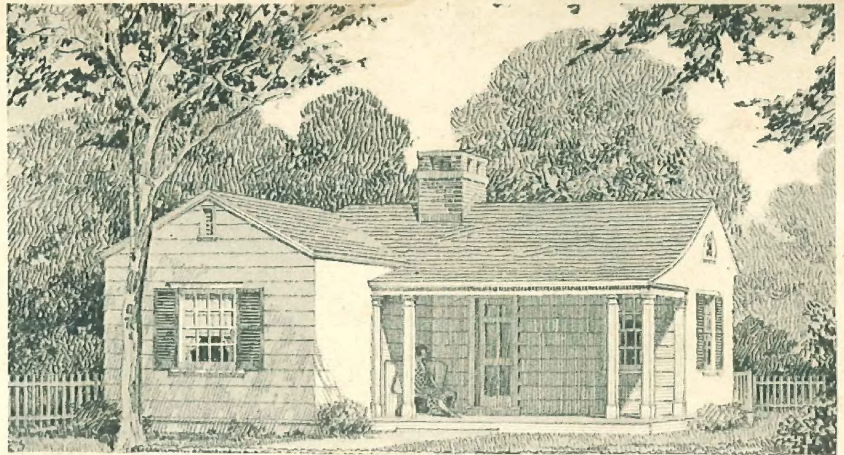


DESIGN 4-A-2

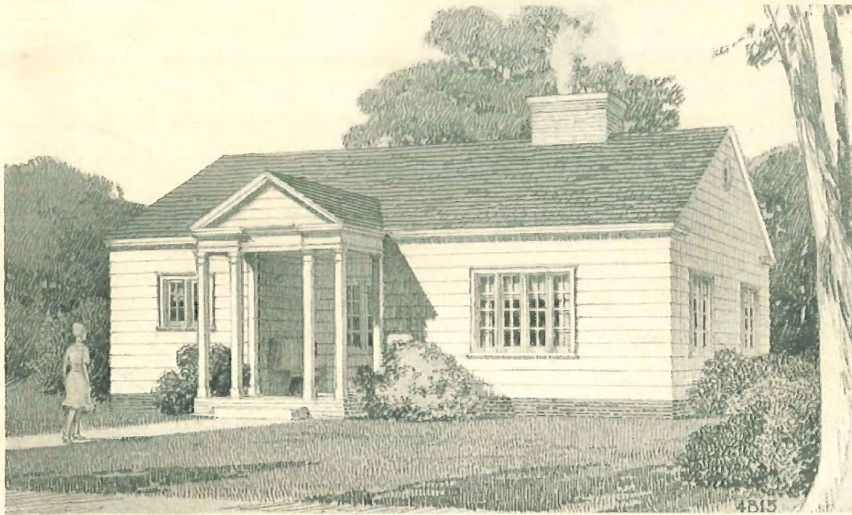
DESIGN 3-B-1



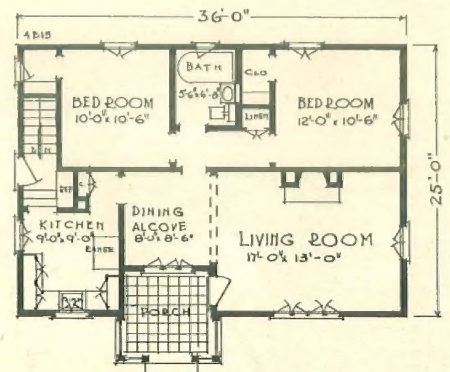
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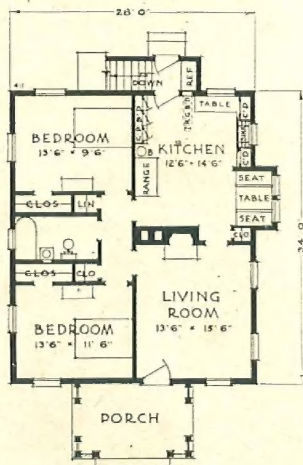
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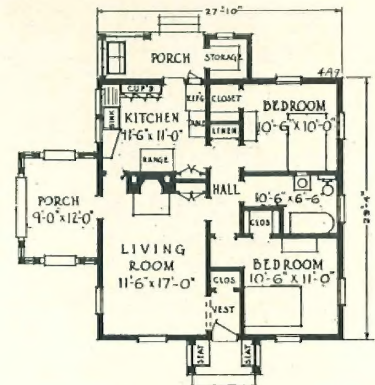
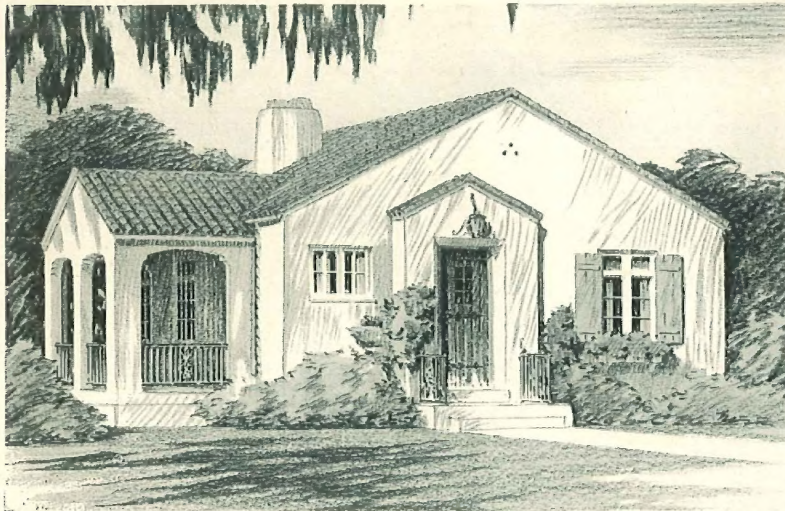


DESIGN 4-A-2



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 4-A-9

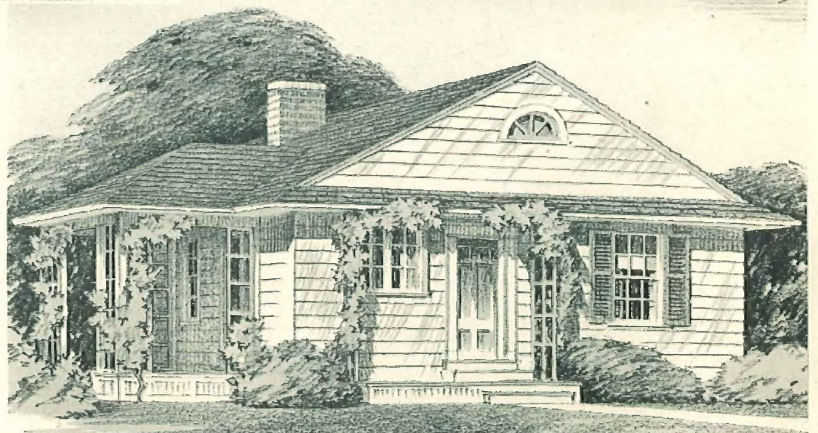
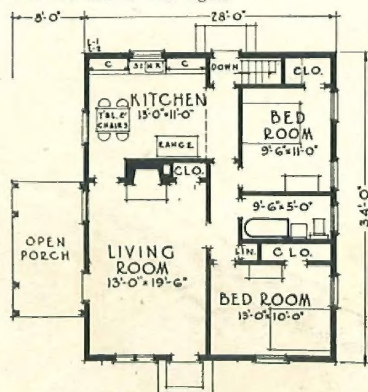
SIX BUNGALOWS WITH PLANS ESSENTIALLY ALIKE



DESIGN 4-A-34

The plan below belongs to this bungalow and the one at the right.

DESIGN 4-A-35

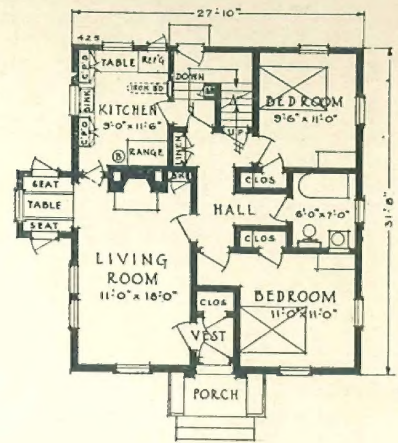


The Bungalows In This Book Represent a Selected Group From The Designs of The Architects' Small House Service Bureau

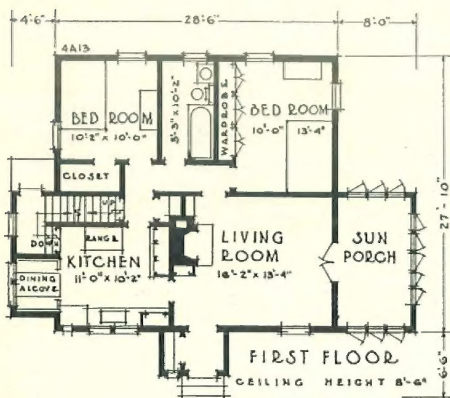


The owner increased the size of the dining alcove, making it a full size dining room. There is space and ventilation in the attic for a third bedroom.

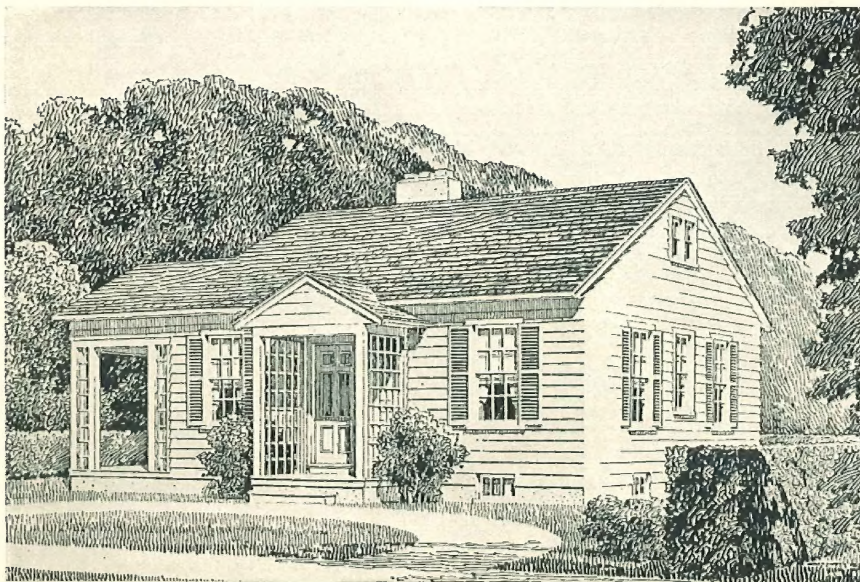
DESIGN 4-A-14



DESIGN 4-A-13

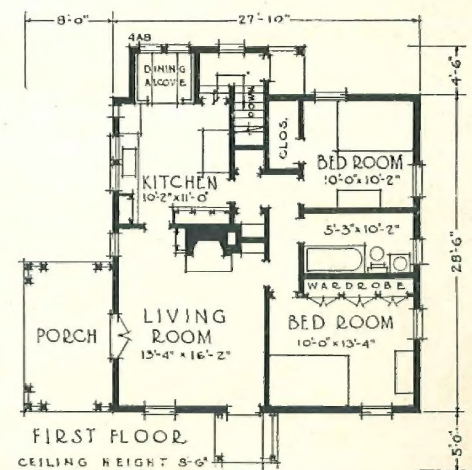


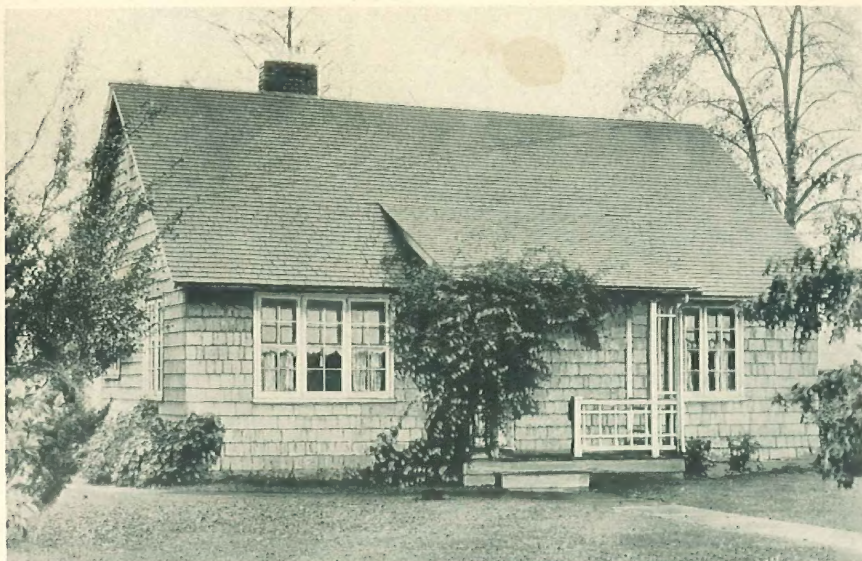
Reminiscent of Pennsylvania Dutch architecture. To decrease costs the porch may be built open. An extra room in the attic. Shutters are necessary for its fine appearance.



The main roof and cornice have been extended to embrace the porch, thus giving an appearance of greater breadth. A plan of few rooms but much useful space.

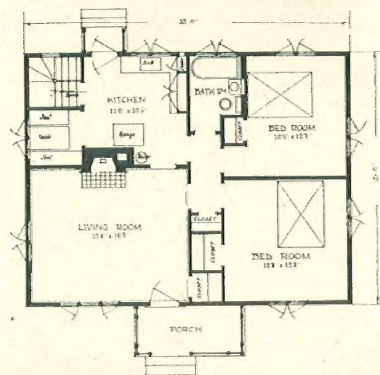
DESIGN 4-A-8





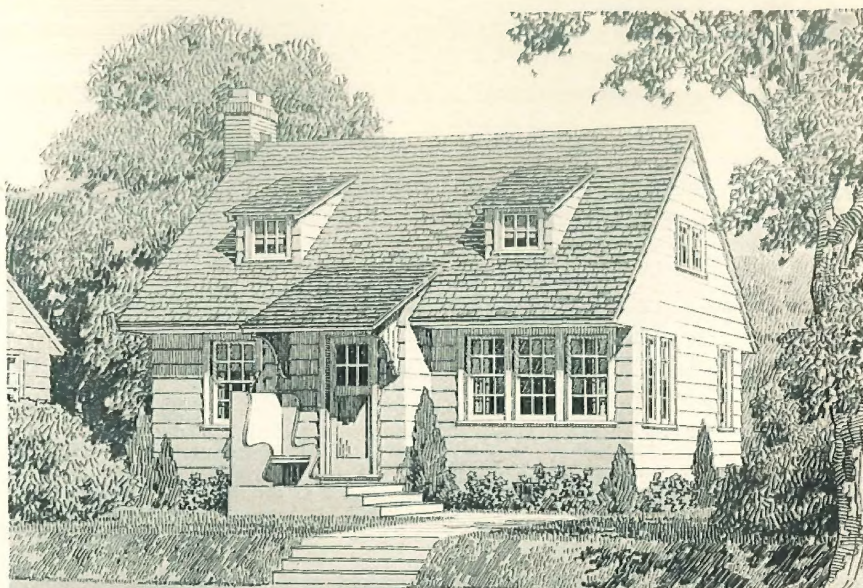
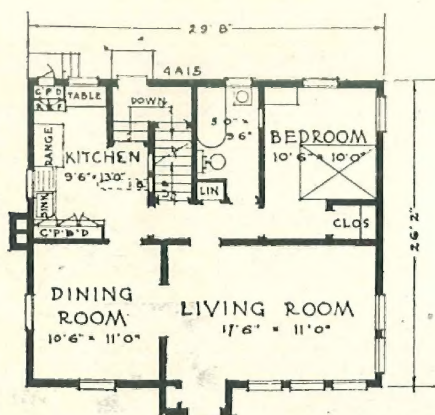
This home has a plan similar to those on pages 4 and 5. Notice the clever arrangement of kitchen with built-in dining alcove in well lighted corner. An excellent example of the theory that a small home may be as comfortable and attractive as many a more expensive dwelling.

Other Designs With These Basic Floor Plans Appear Throughtout This Book.



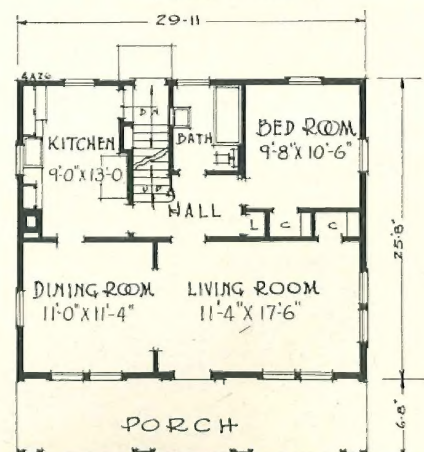
DESIGN 4-E-1

DESIGN 4-A-15



This home and the one below have similar plans with dining room and living room across the front. Each may have one or two additional bedrooms in the second story.

DESIGN 4-A-26



In order to keep construction costs at a minimum the fireplace has been omitted. It may be added if the owner desires.



HOW TO FIGURE THE COST OF OWNING A HOME

How Much Can the Home Builder Afford to Pay for the Privilege of Living in His Own Home?

EVERY prospective home builder should analyze his home financing from the same unsentimental viewpoint that a banker would assume. He should know exactly how much his house and lot will cost, how much money of his own he will have, exactly how much it will be necessary to borrow, and the cost of securing these necessary funds.

There are other items that also should be given due weight. Perhaps the most important of these is how much the home builder can afford to pay for his home. He must not overestimate his present financial strength or the stability of his income. He must neither be too optimistic about probable increases in salary, or fail to take into account possible misfortunes of one kind or another. Finally he must measure his home building expenditures in terms of what he can reasonably expect to save over a term of years.

After all these questions have been answered on a purely practical basis, from studying all the facts and without bias, it is a relatively easy matter to determine how much one is justified in putting into his home and therefore how much it will cost from month to month and year to year, in the form of rent, to take care of all the expenses that go with home building and home owning. For every householder pays rent. Even though one owns his home without owing a dollar on it, he pays rent to himself and to others, just as surely as though he had paid it to a landlord. From knowing what one is justified in paying as rent, it is possible to determine how much one may reasonably invest in his own home. We can work backward from this basis—we can find out the total value of the house and lot that would be represented by the rent which the home builder is justified in paying, and then work out a financing scheme from that knowledge.

Let us start then with the rent problem. Rent is made up of all the items that contribute to the whole cost of maintaining a home. Under this head may be listed the following:

EXTRA ACCOMMODATIONS

FIRST, interest on the home builder's own funds invested in his home. If this money were out on interest it would yield a definite sum, depending on how it was invested. If it were in a savings bank, it would yield $3\frac{1}{2}\%$ or 4% , and if it were in first mortgage bonds the return might be 5% or 6% . Whatever the basis of interest, this is an income which the home builder will not receive directly once his money is invested in his home. Theoretically this may be charged as one of the items of rent, but many people believe that this loss of income on their own equity is more than balanced by the extra accommodations they receive in living in their own homes. But let us

charge it all to rent and then if any part of this sum should be credited out and charged to "extra accommodations" we can do so at the end.

The second item of rent is that of interest on the borrowed money. This is a charge that the home builder is obliged to meet at regular intervals, depending on the provisions of the mortgage or contract papers. The borrowed money is a commodity for the use of which the home builder pays a service or rental charge in the form of interest. Obviously it is wise not to pay too much for the privilege of using this money or to engage to repay it more rapidly than will be reasonably possible within expected income.

HOW TAXES ARE FIGURED

THE third item in rent is taxes. The basis on which real properties are taxed varies with the locality. One may learn the tax rate in his community, and the method used in applying this against properties there. Perhaps the type of house which it is planned to build in a certain district may be represented on nearby properties, and by learning the taxes on these, a fairly accurate estimate may be made of what the charges will be on a new home. The tax rate is usually applied against an "assessed valuation," which is usually a sum considerably less than the actual cost of the house and lot. In one large city the assessor looks over a property and approximates its real value. He then turns in an appraised valuation equal to about 75% of his estimated real valuation. The tax rate, which in that city is about \$70.00 per \$1,000 of assessed valuation, is applied against 40% of the appraised value. In other cities the method differs.

The home builder should make sure also of any special assessments that may have been laid against his property for municipal improvements such as sidewalks, sewer, lighting, street paving. These last are not really items of rent. They are more properly classed as a part of the capital outlay involved in building a home.

The fourth and fifth items are water rent, and insurance. These are met by the landlord and are presumably included within his rental charge. The home owner will have to pay them in turn. He will also be obliged to carry sufficient insurance to reimburse the agencies who have loaned money in case of loss of the house by fire or tornado. He may decide to carry additional protection to cover his own equity, and if he is wise he will do so. The total charge for insurance to cover the property can be learned from any insurance agent by giving him the location of the property, the type of construction that will be employed, and the amount of coverage desired.

The sixth item is the cost of maintenance. When the house is rented from a landlord, the standard provision is that the landlord shall maintain the house in good repair and shall do all necessary painting and decorating, keep the plumbing in working order, and meet other incidental expenses of the kind. These expenses are, of course, absorbed by the landlord out of the rent money he receives. The home owner pays them on his own property. However, when one owns his own home, expenses of this kind tend to be lower than they are in rented properties, as greater care is exercised. The home owner may make many of the repairs himself. The amount to be charged on this account varies with the age of the house. In a well built house one per cent may be sufficient for each of the first five years. After that the cost of maintenance will mount to a higher rate— 3% would be about the maximum.

Finally, there is the item of depreciation and obsolescence to be accounted for in terms of rent. This is somewhat of a theoretical matter. It is based on the assumption that one should lay aside annually a sum equal to the presumed amount of depreciation and obsolescence of the house. Unlike an automobile, the depreciation is low at first and high in later years. The yearly sum written off as depreciation should be large enough so that when the house has served its usefulness and has become worn out through wear and tear, or is rendered undesirable by being out of style, there will have been built up a sum equal to that of the original investment. An average allowance of about 2% a year for a well built house is a fairly accurate basis on which to compute obsolescence and depreciation.

SOUND BUT NOT USEFUL

ONE can see in old neighborhoods houses of nondescript character and uncertain age that are in so bad a state of repair that it would be unwise to spend any considerable sum on them to make them livable. They do not yield enough income in rent to pay taxes on the land they occupy and cannot be made to do so without heavy expense. Their age is about forty years. Their sale value is not more than the cost of demolishing. Therefore they represent a depreciation at the average rate of $2\frac{1}{2}\%$ a year.

Another house nearby of better character structurally, having been built of good materials and, as it happens, rather ornately finished with expensive woods and with rooms of such generous size that one is struck with the difference between the modern home and those of sixty years past, is also practically a total loss. No one will live in it—the cost of heating is too great, the plumbing antiquated, the expense of furnishing and dec-

orating beyond ordinary means. It is not the servantless, self-operating house of today. It would yield nothing on being demolished. The loss represented is $1\frac{1}{3}\%$ a year of the cost of the house alone. The ground area remains, and in the case of these particular properties has greatly appreciated in value.

Depreciation and maintenance are sometimes confused, but they are really distinct items. Often there is an item of appreciation. This applies only to the value of the lot itself. The wise home builder will not fail to give it proper weight in purchasing his property. Some house financing experts have said that the lot should be selected with the definite end in view of an appreciation in land values, such that, when the mortgages are paid off at the end of ten or twelve years, there will be represented a net worth of the house and lot equal to the sum originally invested in it.

Let us assume then that you feel it possible to own a \$6,000 home including a

been said by competent persons that city residential property tends to increase in value as a normal experience by 10% a year. If this is true and the depreciation and obsolescence is set at 2%, then the ratio of the cost of the land and cost of the house should not be more than one to five. In this way the depreciation on a house always would be equalized by appreciation in the value of the land.

RENT COST REDUCED

IF, in the case of the \$1,000 lot we have been considering, there were an appreciation of 10% per year, there would be an actual balance between the two items of depreciation and appreciation. There is no really accurate way of adjusting appreciation, but, if it can be assumed that this item would offset the depreciation charge, then the net cost of rent as figured heretofore would be reduced by \$100 per year. It is probably thoroughly understood by everybody that not one householder in ten

sociation, under the rules of which he will agree to pay into that Association \$12.50 per month per thousand borrowed. In this case he will have borrowed \$4,000. Therefore, the dues to the Building and Loan Association will be \$50.00 a month. This money represents not only amortization and pay-off on the principal sum borrowed, but also the interest thereon.

Therefore, to determine how much money would have to be paid out on a scheme of financing of this sort, we would take all of the items in the above list with the exception of the interest on the borrowed money, for this would be accounted for in the money paid to the Building and Loan Association. We would also eliminate the depreciation and obsolescence allowance under circumstances where it seemed logical to assume that there would be appreciation to balance depreciation.

Under such circumstances, and applying this process of financing in the case we are considering, the home owner's monthly pay-out on all accounts would amount to \$77.83 per month. It must be remembered, however, that this sum not only represents the cost of housing one's family, but also includes savings which at the end of ten or twelve years will wipe out the sum originally borrowed.

GOOD PLANS NECESSARY

THIS is simply a typical case and probably will not fit accurately anyone's particular problem. It is cited to show the process by which one may arrive at the cost of home owning so that he may go about determining the proper extent of his investment.

It has been argued, and wisely so we think, that the cost of rent as above deduced should have credited against it also a sum which would approximate the extra value that the home owner gets. The proposal is that the home builder estimate as well as he can in money the actual worth of the extra pleasure and accommodation he derives in owning his own home. Some have said that this is easily equal to the interest on the home builder's equity and that it should be charged to pleasure and not to "rent" no matter how wisely it may have been spent. If this is true, the cost of home ownership is reduced still further.

In any event, the home builder must work out for himself a financial statement including the items we have listed and properly adjusted to the circumstances and thus finally arrive at the net cost of owning his own home.

If this net cost seems too large in proportion to the home builder's income on the basis of the size and quality of house which he has assumed he could build, the only way by which he can own his own home would be for him to reduce the cost of home building either by buying a less expensive lot or by building a less expensive home, or by both.

Having found the approximate sum which it is wise to invest, the next step is to get a good set of plans and specifications. Let us emphasize the fact that these must be chosen wisely on the basis of what the home builder has deduced from the foregoing analysis would be the maximum he should allow in his budget for "rent."

THE COST PROGRAM

1—Interest:	
Interest on equity @ 5%—5% of \$2,000.....	\$ 100.00
Interest on borrowed money @ 6%—6% of \$4,000.....	240.00
Total interest	\$ 340.00
2—Taxes (This varies with the city and ward, but in this instance we are applying the method of one city as outlined previously herein.)	
75% of \$6,000 (appraised value).....	4,500.00
40% of \$4,500 (assessed valuation).....	1,800.00
\$70 per \$1,000 of \$1,800.....	126.00
Total taxes	126.00
3—Insurance:	
Fire—80% of \$5,000 for 3 years @ \$7.50 per \$1,000.....	\$30.00
For 1 year.....	10.00
Tornado—60% of \$5,000 for 3 years @ \$4.00 per \$1,000.....	\$12.00
For 1 year.....	4.00
Total insurance yearly.....	14.00
4—Water rent (average yearly).....	4.00
5—Maintenance—1½% average yearly (on both house and lot)—1½% of \$6,000.....	90.00
6—Depreciation and obsolescence (on house only)—2% of \$5,000.....	100.00
Total yearly expense.....	\$ 674.00
Total monthly expense (rent).....	\$ 56.17

garage. Of this \$6,000, \$1,000 is represented by the value of the lot, which you own, and you have in addition \$1,000 in cash, so that your total equity is \$2,000. You will find it necessary to borrow \$4,000. Assuming that you may borrow this on a first mortgage your computations will follow approximately the cost program outlined above.

INCREASED VALUES

THUS the total cost of rent comes to \$674 a year or about \$56 a month, which on the face of it is not such an extraordinarily large sum for the privilege of owning a \$6,000 home. And remember this does not take into account at all the extra value you get in a home designed and built as you want it, on a lot located where you prefer to live. Furthermore, this does not necessarily represent the amount of money one would have to pay on account of owning his own home.

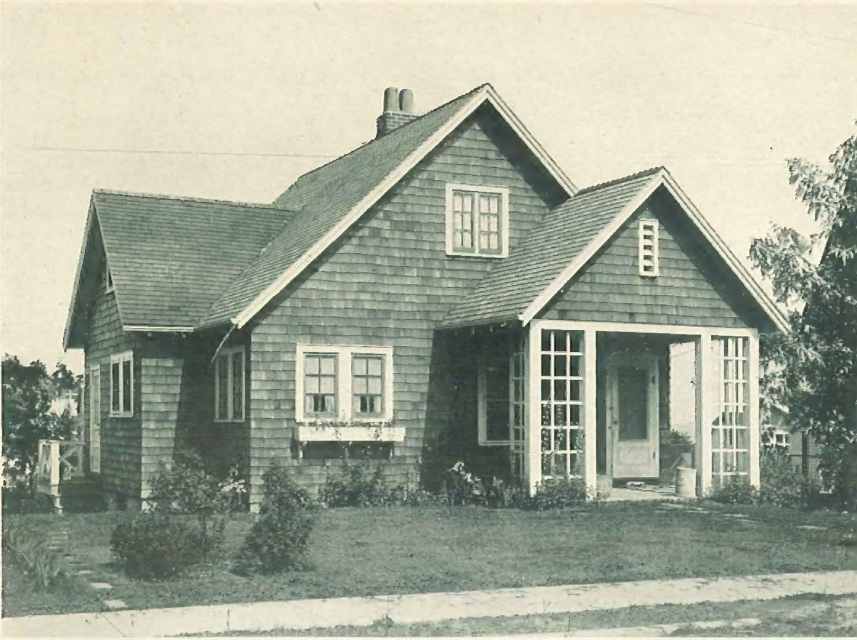
For example, the charge for depreciation and obsolescence on the value of the house may be offset completely by appreciation on the value of the land. It has

thousand actually builds up a fund to meet depreciation and obsolescence.

From this reasoning the average net cost per month for rent would be \$47.83. It is understood, of course, that this does not represent the actual "pay-out" per month. Interest on the home builder's equity would, for example, not be paid out. However, if this interest were deducted from rent it would also have to be deducted from income so that the net experience would be the same. Furthermore, there might be a saving on "maintenance," but it would be conservative to figure this item in about as stated.

On the other hand "pay-out" may be substantially increased through savings which the home builder may make and apply on his property, thus increasing his equity therein. He may find it necessary to accumulate funds for the purpose of reducing the mortgage so that at the end of ten or twelve years he will own the property outright.

For example, in this home we have been considering, the home builder may do his financing through a Building and Loan As-



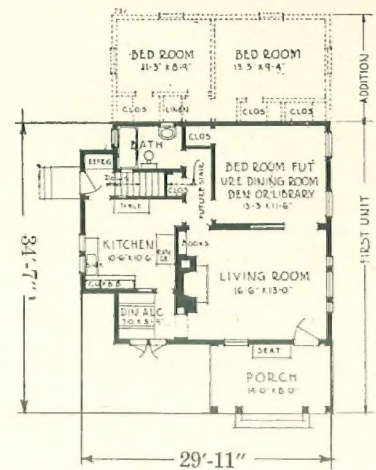
THOUGHTFUL mothers know many tricks to let clothes out so they may fit growing girls and boys who shoot outward and upward. This house is designed for such extensions. As the family increases in size it may grow with them. Not all houses can be thus enlarged without involving great expense in rearranging stairs, hallways, doors, and windows, the plumbing and heating systems.

Frequently a room or two tacked on after the house is built looks like an afterthought, spoils the appearance. But in this home the architects provided in both the plan and exterior of the original design for future enlargement. The extension can be made without interference with the original lay-out of the rooms and the construction of the house, and the appearance instead of being injured will, if anything, be improved.

Construction: wood frame, exterior finish stucco or shingles, roof of shingles.

A HOME THAT CAN GROW

*To Be Built as the Cathedrals
Were—Little by Little as
the Money Comes In*



DESIGN 3-A-12

The black lines show how this house can be built at first, without the two bedrooms at the rear. Even then it will be a complete house. The dotted lines show future extensions and how the rooms may be used.

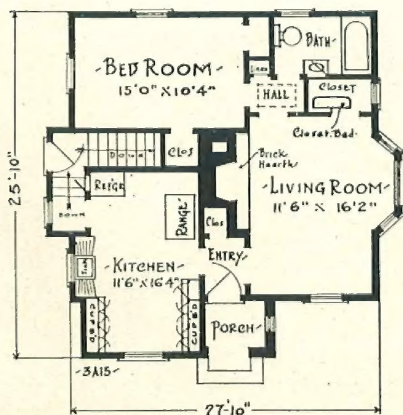
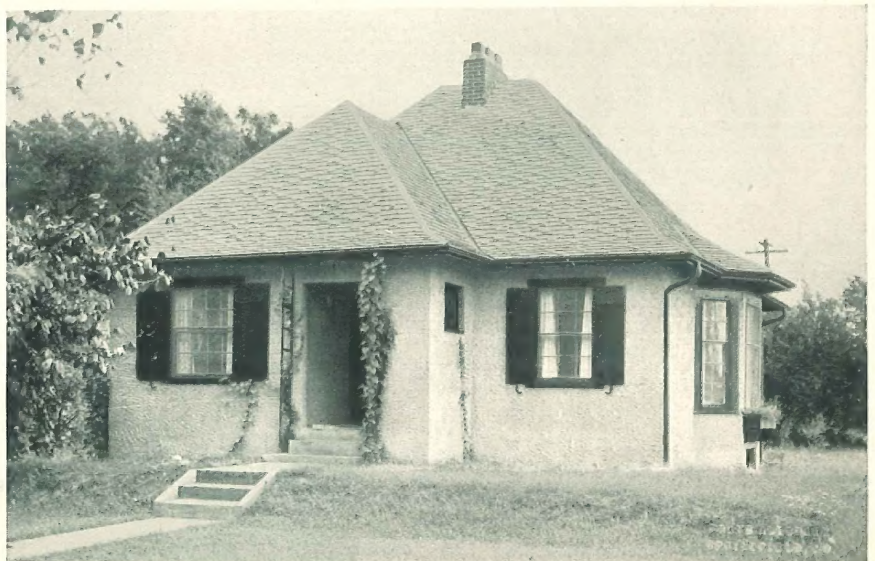
COMPACT SMALL HOUSE

DESIGN 3-A-15

IT IS possible to obtain any number of plans for three room houses that provide the bare bones of living. But here is much more than that. The house is small but it provides many luxuries.

There is a fireplace in the living room more than eight feet wide, with a broad brick hearth. To increase the sleeping accommodations without adding to space or expense, a closet bed has been devised to open into the living room.

Construction: wood frame, exterior finish stucco, roof of shingles.



IN few homes is the kitchen located on the front of the house. But why should it not be placed in this position? It is the workshop where many hours are spent during the day and deserves adequate light, ventilation and sunshine. There is plenty of space beneath the broad window for a kitchen table and seats—the informal dining nook. Notice the similarity of this plan with that of the one above. Another house with a similar plan is design 5-C-5, on page 19.



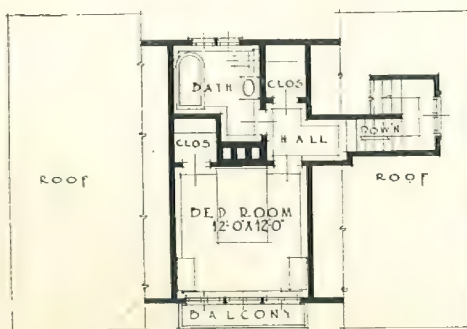
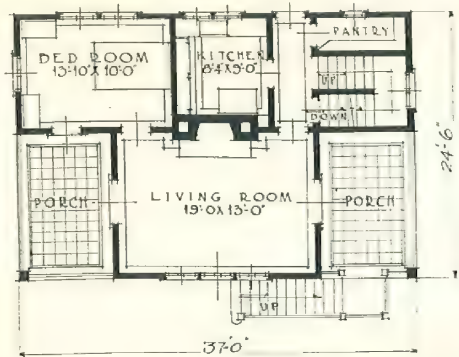
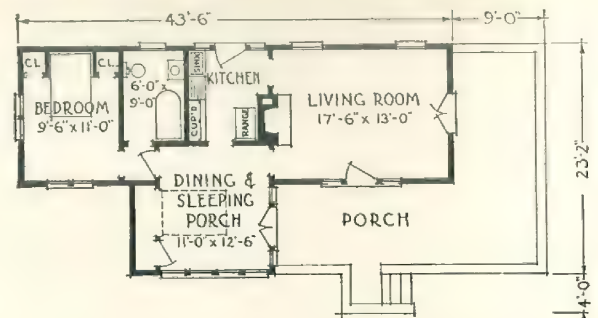
FOR MOUNTAIN, WOODS, SEA OR LAKESIDE



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 3-B-9

THE living room is open on three sides and has a ceiling with exposed rafters, which with the rough stone fireplace, are in keeping with the rustic exterior. The sheltered porch, screened in, offers additional sleeping quarters. The enclosed porch may be used for dining. Its many windows and easy access to the bathroom make it also an ideal sleeping porch.

Construction: wood frame, exterior finish of rough sawed boards or shingles. Instead of plaster inside some form of wallboard could be used. The foundations may be of local stone. No basement excavation is required.



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 4-B-7

THE plans call for foundation walls of stone and upper walls of wood studs faced with square edged boards and wooden battens. The owner substituted log siding for exterior treatment, both for the foundation and for the cabin itself. The photograph shows how the logs were used to form an interesting pattern.

The high foundation gives adequate space for a garage and huge storage room.



The charm of this style is unmistakable. In keeping with it is the hospitable porch across the front in the Southern manner.

GEORGE WASHINGTON and Thomas Jefferson built their homes in the same Colonial tradition as was followed in the design of this house, only theirs were stately mansions while this is a small, compact, modern cottage. As the perspective shows, the designer intended the porch cornice to be higher and continuous with the cornice of the main roof. There is also a slight variation in the design of the lattice and arrangement of windows.

Construction: wood frame, exterior finish siding.



WHAT IS ARCHITECTURE?

AMONG many definitions of architecture is this one: "Architecture is putting into building certain qualities—namely, logic, strength and beauty." Do these seem too high sounding words when applied to small homes? Not when translated into familiar terms.

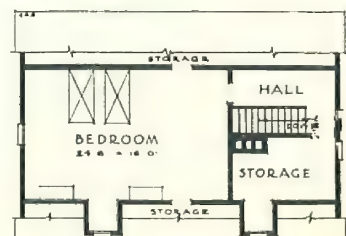
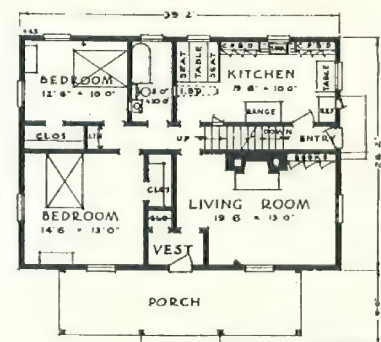
Logic means making the house convenient, liveable, adaptable to both the family and the site. It means straightforwardness of plan that results in economy.

Strength, of course, means building with good materials. It means honest construction, durability, long life, low depreciation.

Beauty results from naturalness, from simplicity and from good proportions. It depends upon careful attention to the small details as well as to the larger ones. It is the quality that makes the house a pleasure to see and to know, and to live in through the years.

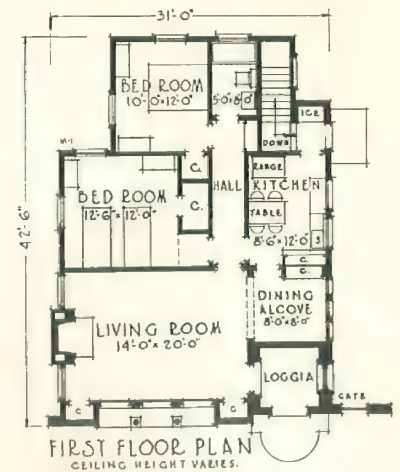
These three combined make good architecture. Without any one of these a house is a mere building. It is not architecture.

DESIGN 4-A-5

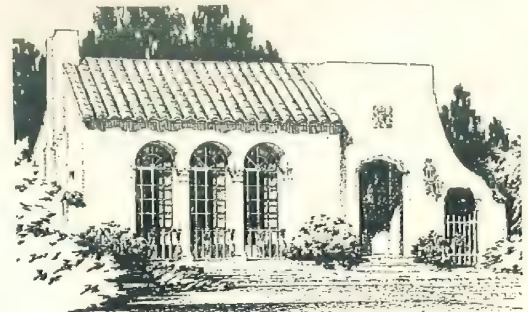




DESIGN 4-A-38



OLD WORLD BEAUTY--NEW WORLD EFFICIENCY



This has proven an exceedingly popular design. The unique exterior is, of course, one reason, and the plan is another. Construction: wood frame, stucco finish, roof should be of tile if possible.

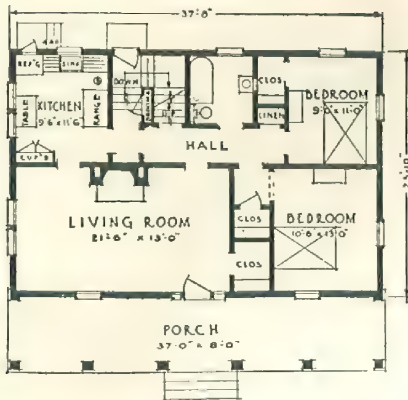
AN UNUSUAL LIVING ROOM

THE feature of this bungalow is the studio type living room, having a vaulted ceiling, with exposed beams. Across the front of the room a triple arched window floods the room with light, produces a most impressive effect. Extending from the living room is the dining alcove. To give this a more intimate air, the ceiling has been dropped to eight feet and a low beam separates it from the living room. These two rooms complete the front or living half of the house. Between them and the sleeping portion the division is almost as distinct as in a two-story house.

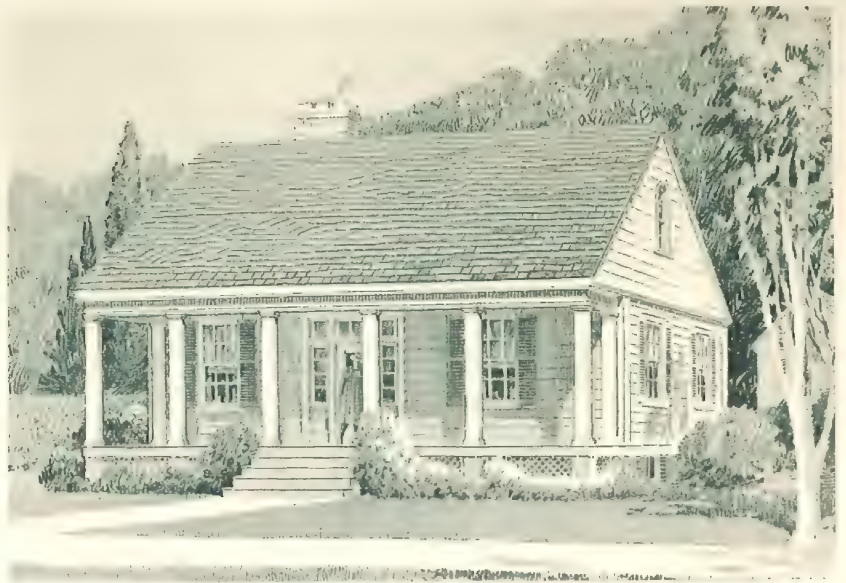
The owner of the house illustrated above used spiral columns between the windows and wing walls at the sides. These are added features, not shown on the original drawings. See the perspective drawing above.



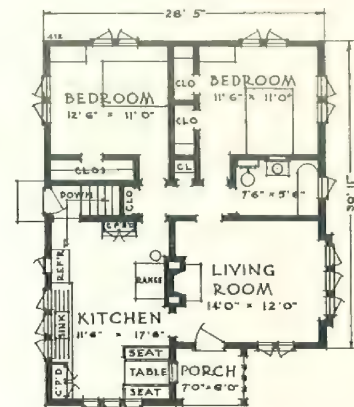
DESIGN 4-A-11



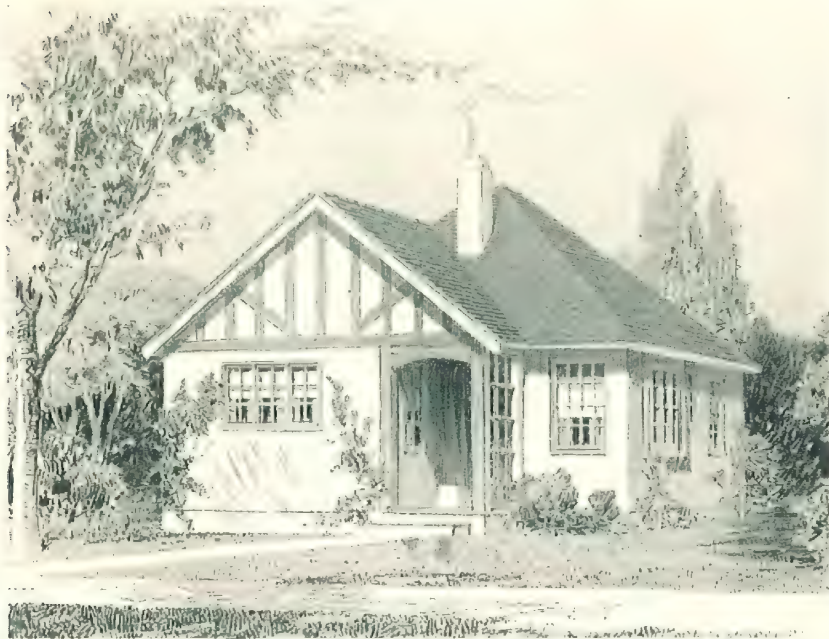
The columned porch across the front of the entire house is suggestive of the fine old plantation homes of the South. Construction: wood frame, exterior finish wide siding.



DESIGN 4-A-3

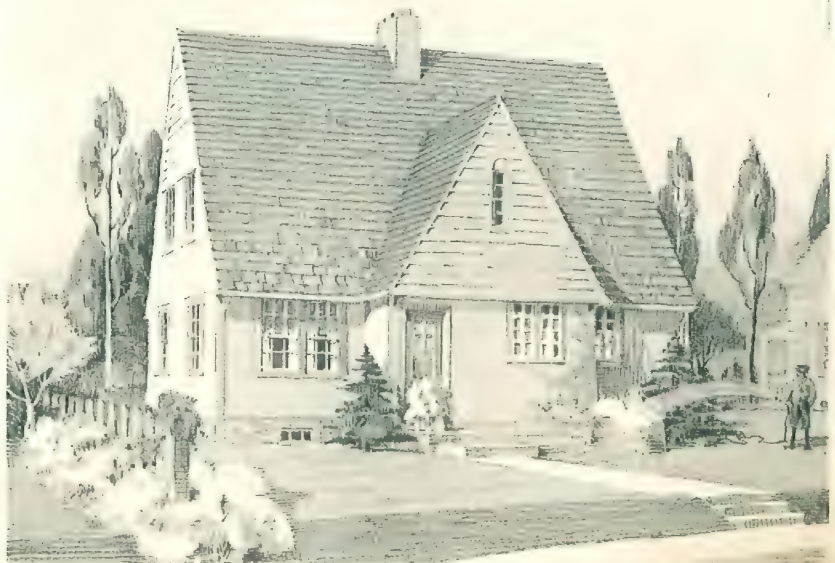
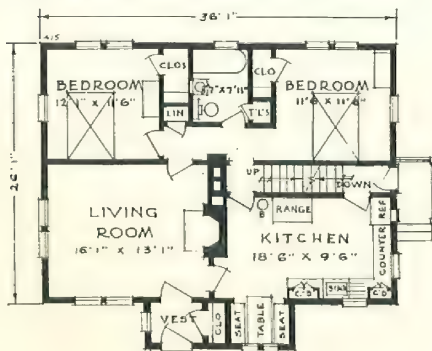


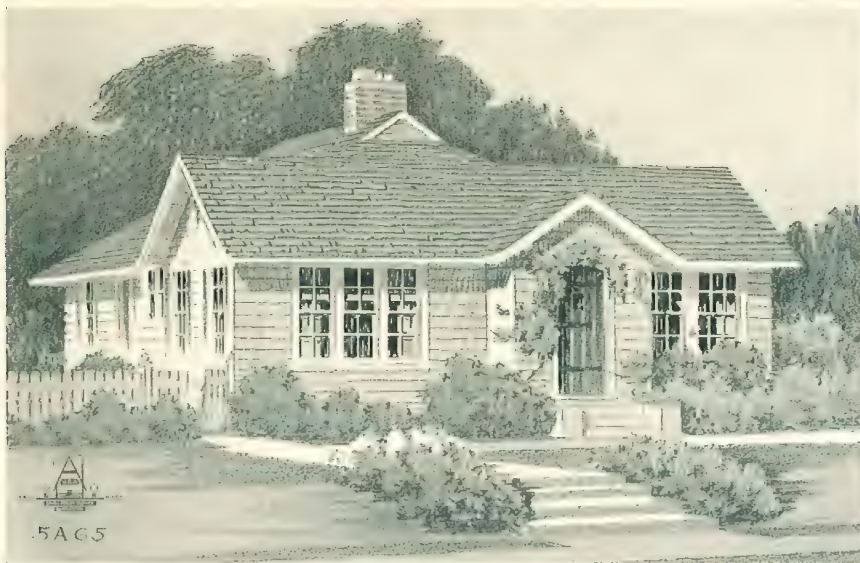
A bungalow after the manner of the English cottage. To carry out the English spirit the windows have casement sash. Construction: wood frame, exterior finish stucco, half timber work in the gable ends.



DESIGN 4-A-7

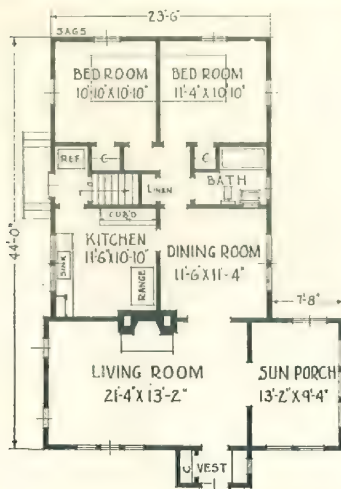
At the right is a house that is much larger than the floor plan discloses, for there is space in the attic for two extra bedrooms. Construction: wood frame, exterior finish stucco, siding in the gable ends, roof of slate or shingles.





*The One-Hundred Bungalows In This Book
Were Selected From Designs By The
Architects' Small House
Service Bureau*

THE design at the left does not have an unusual plan excepting in the convenience it affords. Long test of time by many home builders has proved its usefulness. See how living quarters are separated from the bedrooms and bath. It is an old and tried plan given a new exterior, to which the laws of architecture have been applied. Many adaptations of this plan appear throughout this book.



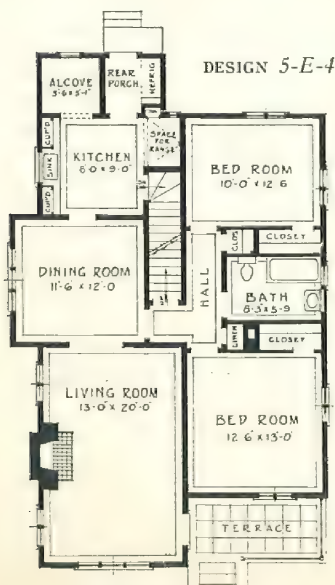
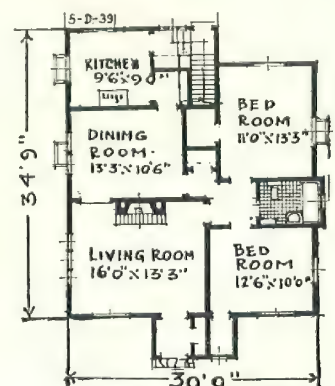
DESIGN 5-A-65



DESIGN 5-D-39

THE five room bungalow shown below is of a type that will meet the needs of many a young housewife obliged to perform all the operations in the management of her home. It will not overtax her strength, nor be too cumbersome to finance for the man whose means are limited.

TO the right is an unusual plan for a five room house. The exterior walls of shingles may be stained a silver gray, the rough board shutters brown. The roof may be of variegated colors ranging from rich brown to light green. The rustic character is accentuated by the forms given the door and shutters.



DESIGN 5-E-4



THIRTY THINGS TO BUY BESIDE FRONTAGE

There are Titles, Boundaries, Taxes, Transportation, Neighbors

IF YOU want to base your home-building project "on solid ground," literally as well as figuratively, you should "look beneath the surface" of the real estate deal—figuratively as well as literally!

A home is more than just a house. By the same token, a proper home-site is more than just so much dirt. It may or may not have the qualities that make it desirable as a permanent location for a dwelling, and profitable as an investment in real property.

So here is a list of thirty items by which to judge whether the lot you are thinking of buying is mere real estate or a good home-site:

1. Buy the knowledge of a dependable real estate expert; that is, patronize a dealer of high standing in the community.
2. Buy an appraisal. Consult a second disinterested real estate man or a professional appraiser and pay him his relatively small fee for making an analysis of the value of the property before you purchase it.
3. Buy an absolutely clear title. You may require the seller to establish his title to the property before you buy it, or you may employ a lawyer or a title guarantee company to search the title for you. This is vitally important and is worth the expense.

SUNLIGHT AND EXPOSURE

4. Buy exact boundaries. Don't take the seller's word as to property lines, but see that they are accurately established at the time when the title is searched.
5. Buy sunlight, not smoke and dust. If you are going to the trouble of acquiring your own permanent home, you might just as well have it in a location that is sure to be healthy for your children.
6. Buy exposure to the winds that prevail in summer. When looking over the lot, keep in mind the house you intend to place on it and try to see whether or not it will be comfortable.
7. Buy enough land. The minimum should be from 40 to 60 feet of frontage. Old-style 25 and 28 and 30-foot lots in crowded districts are poor investments. The wider your lot, the greater your chances for a price-increase.
8. Buy solid earth. In filled-in tracts, or "made" land, there always is a danger of poor drainage or a chance that the house will settle. Either settling or bad drainage will damage the structure.
9. Buy high land. This is necessary if drainage is to be satisfactory. A low lying lot may mean a waterproofing problem.
10. Buy level land. Filling a lot to bring it up to the desired level is almost as costly as excavating.
11. Buy land of good shape. A lot of irregular outline may prove difficult to sell.

Set your ideal high—you probably will have to modify it, but it's safer to modify a high ideal than a low one.

12. Buy good soil. Remember that excavating in rock may prove more expensive than you wish to undertake, that quicksand or other defects of the soil may result in damage to your house, but that under-surface sand or gravel may be an advantage if it is of such quality that it can be used for the mortar, plaster or stucco.

13. Buy land fully developed or already under development. It is safer, though more expensive, than acreage which may be developed in the distant future.

14. Buy water and gas mains, graded and paved streets, sewers, walks and curbs already installed, or else add the estimated cost of taxes for these improvements to the price of your lot. Property with all these utilities in and fully paid for should not cost you more than 30 per cent of the total investment you plan to make, though 20 per cent would be a much safer figure. Land without these improvements should not cost more than 10 per cent of the total.

15. Buy moderate taxation. If you have any choice as to the state, county or city in which you intend to build your home, acquaint yourself fully with the taxing policy of the authorities and estimate what the taxes will add to the cost of maintaining your dwelling.

16. Buy good transportation to your work, church, schools and shopping centers. Measure the distance, not in miles, but in time it takes to get there. The ideal home-lot is three or four blocks from transportation lines and stations.

17. Buy good collateral on a building-loan; that is, choose a lot on which a bank or building and loan association will advance you at least 50 or 60 per cent of its value. If they won't lend you more than 40 per cent you may question whether or not you are paying too much.

18. Buy fire and police protection. See that your neighborhood is well served by these city departments.

WHO IS YOUR NEIGHBOR

19. Buy partnership in the community. "Restricted residential districts" may serve as protection against persons with whom your family won't care to associate, provided the restrictions are enforced and are not merely temporary.

20. Buy the right to build according to your own standard of living. The building restrictions may call for a more ex-

pensive house than you can afford to build and maintain.

21. Buy a well-balanced investment. That is, don't put much more or much less than one-fifth or one-fourth of your total funds into the lot. The construction should cost you three or four times the purchase price of the land.

22. Buy a sound investment, so far as you and your appraiser can judge future values. Population and transportation are the two chief elements in increasing home-site values. Be sure your property is in the line of residential, not industrial or commercial, growth of the city.

23. Buy freedom from easements; investigate thoroughly to find out whether or not any one has any right to lay pipes or erect poles or make a right-of-way on your lot.

24. Buy good location within the block. Remember that a corner lot may be double-assessed for streets and sidewalks and that it will require longer fences. See that your lot is such that your neighbor's kitchen or garage won't be a nuisance.

25. Buy a real share of parks, playgrounds and schools. An ideal location is about half a mile from these.

26. Buy freedom from traffic dangers and noises. A through street may prove a menace to your children and to the daily comfort and the nightly slumber of the whole family.

27. Buy a chance at future favorable development. Examine the chances of public utilities, parks or boulevards being brought closer to your property in the future—and then be sure that such developments would be to the advantage and not to the detriment of the property.

28. Buy "a sure thing." If at all possible, it would be well for you to rent and live in a neighborhood for a year before undertaking to buy and build there.

ALL YOU SEE IS YOURS

29. Buy beauty. Too many trees are better than too few; natural objects of beauty will save you the cost of development and will help you dispose of the property advantageously when the time comes.

30. Buy a home, not a speculation. You would accept many things in buying just to make money which you wouldn't consider if you were buying for permanence. Set your ideal high—you probably will have to modify it, but it's safer to modify a high ideal than a low one.

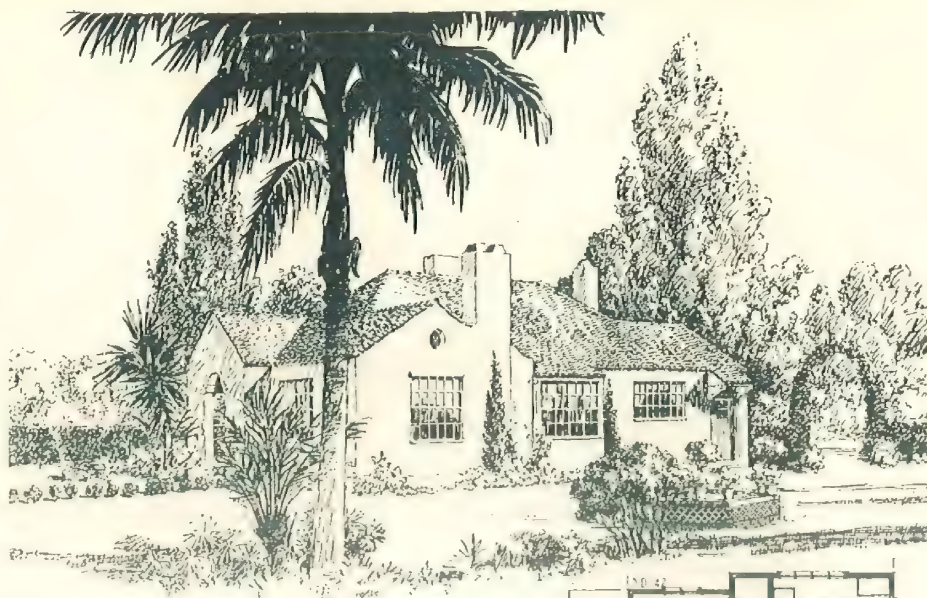
Of course, a home-lot possessing all these thirty advantages may be more than an ideal—it may be a physical as well as a financial impossibility in your town. But these are the things you should have in mind before you buy. Don't let any one "talk you out of them."

BASEMENTLESS! -- A MAJOR SAVING IN FIRST COSTS

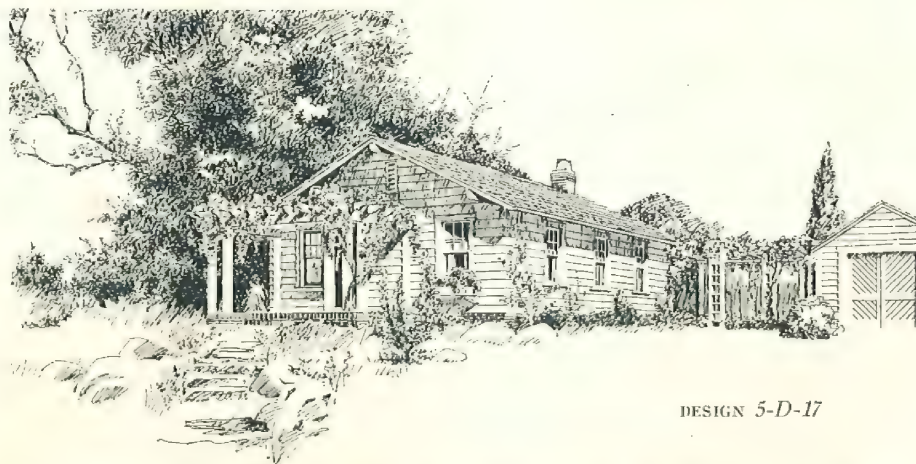
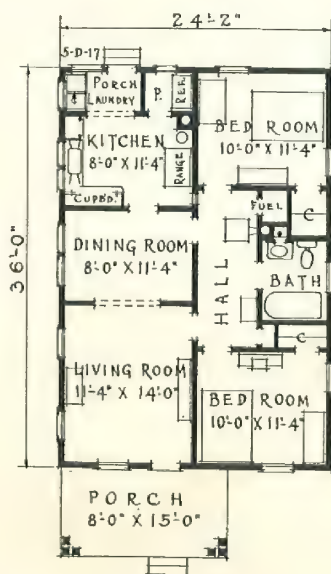
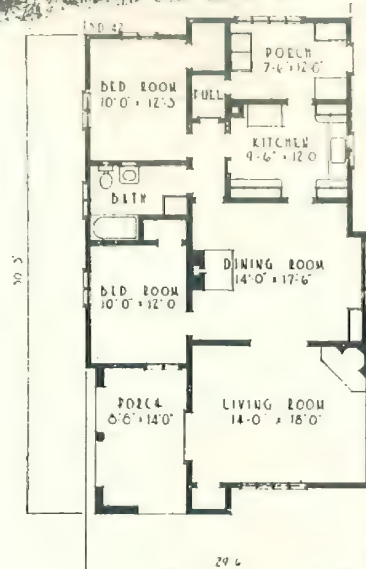
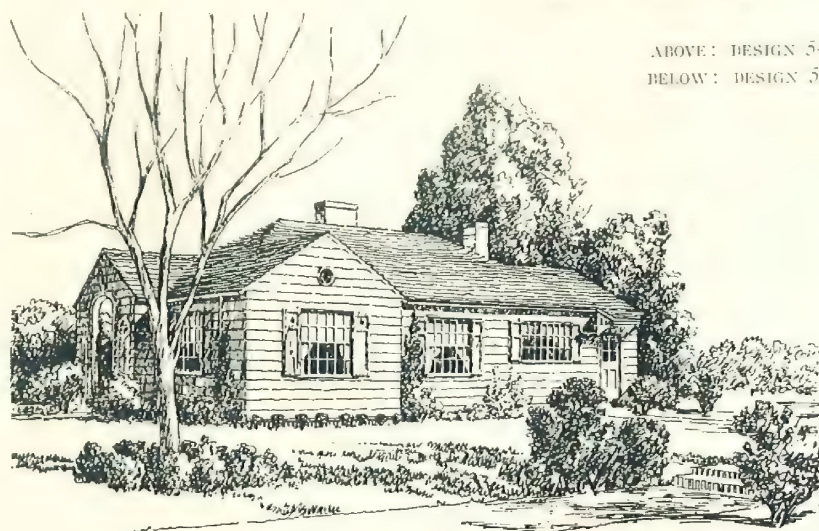
THE house at the right and the one below have similar plans, but the exteriors are different. One is influenced by Spanish forms and the other is in the Colonial style.

These designs, as well as 5-D-17, illustrated below, should be of especial interest to home builders seeking ways of cutting building costs for the heating plant is in the first story.

Construction: Both wood frame, 5-D-42 with exterior of stucco, roof preferably of tile; 5-D-43 with exterior finish shingles or wide siding, roof of shingles.

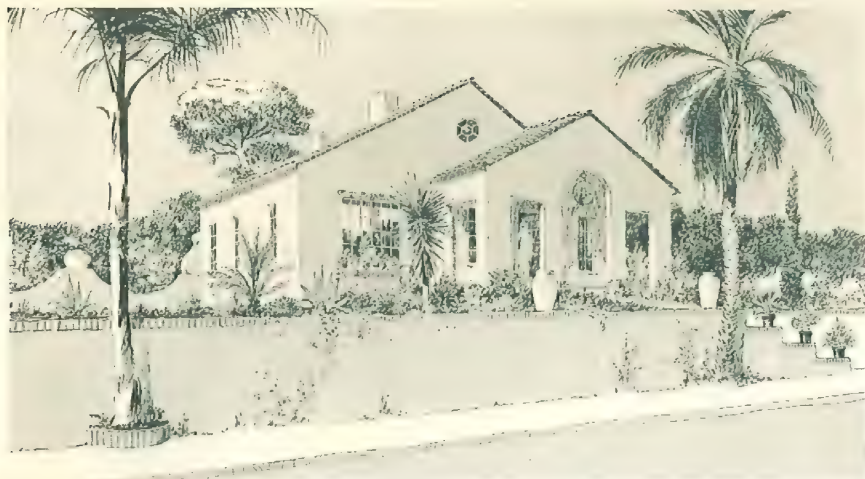


ABOVE: DESIGN 5-D-42
BELOW: DESIGN 5-D-43

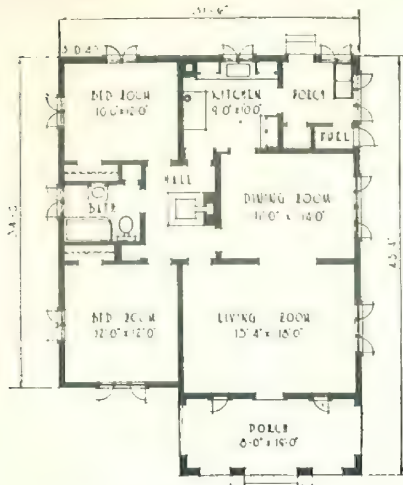


DESIGN 5-D-17

A SIMPLE straightforward comfortable home all on one floor and with no basement. The heater is located in the hallway and all the rooms have been arranged so that air will circulate freely among them. The heater may be either hot water or warm air. The home builder may wisely consider how this type of house meets his problem. Construction: wood frame, exterior finish wide siding or shingles.



DESIGN 5-D-40



DESIGN 5-D-41

OMITTING THE BASEMENT TO LOWER COSTS

IF you are planning to build a home of the most inexpensive type, costing, let us say, not to exceed \$4,500, you may be interested to learn that one of the most certain ways to reduce costs is to omit those things which you do not absolutely require. Among other things of this kind is the basement. Through omitting the basement you may be able to save as much as 15 per cent of your total building cost.

On the first thought a cellarless home seems to be a radical departure from the accepted principles of home construction, but this idea is by no means a new one. In fact, the complete basement, which we have installed in most of our modern small homes is a rather recent development. The cellarless house for present day use has been approved by many architects, including Ernest Flagg—the architect who planned the Singer building—and also by the Architects' Small House Service Bureau.

It will not do at all to build a cellarless house without taking into consideration matters of ventilating the space underneath and removing the top soil and following out other principles of sound building. When a cellarless house is built as it should be, the results are satisfactory.

Often home builders think that a home must have a cellar to be comfortable in every way, but a home built properly without a cellar is dry and warm. Insurance men have shown us also that since many a fire starts in the basement, where it gains great headway before it is found, a cellarless house is less in danger from fire than a house with a basement.

A cellarless house also may be very beautiful, for being built close to the earth, it hugs the ground and gives an air of shelter and protection. A house that is built close to the ground has an appearance of always having belonged there. It has a more homelike atmosphere. But certainly to the prospective home builder who must build inexpensively, cellarless houses will appeal chiefly for their economy.

As to the necessity of providing the cellar as a place to locate the house heater, there are various forms of ground floor heaters on the market which heat five or six rooms very comfortably. It may be said for the house you are planning to build that one of these ground floor heaters will not only save you part of the cost of the basement, but will heat your house adequately. In any case, it is certainly ad-

THE close clipped gables, the severity of line and mass, the tile roofs and heavy porch posts give these two houses the Spanish mission character which is so much in vogue in Southern lands.

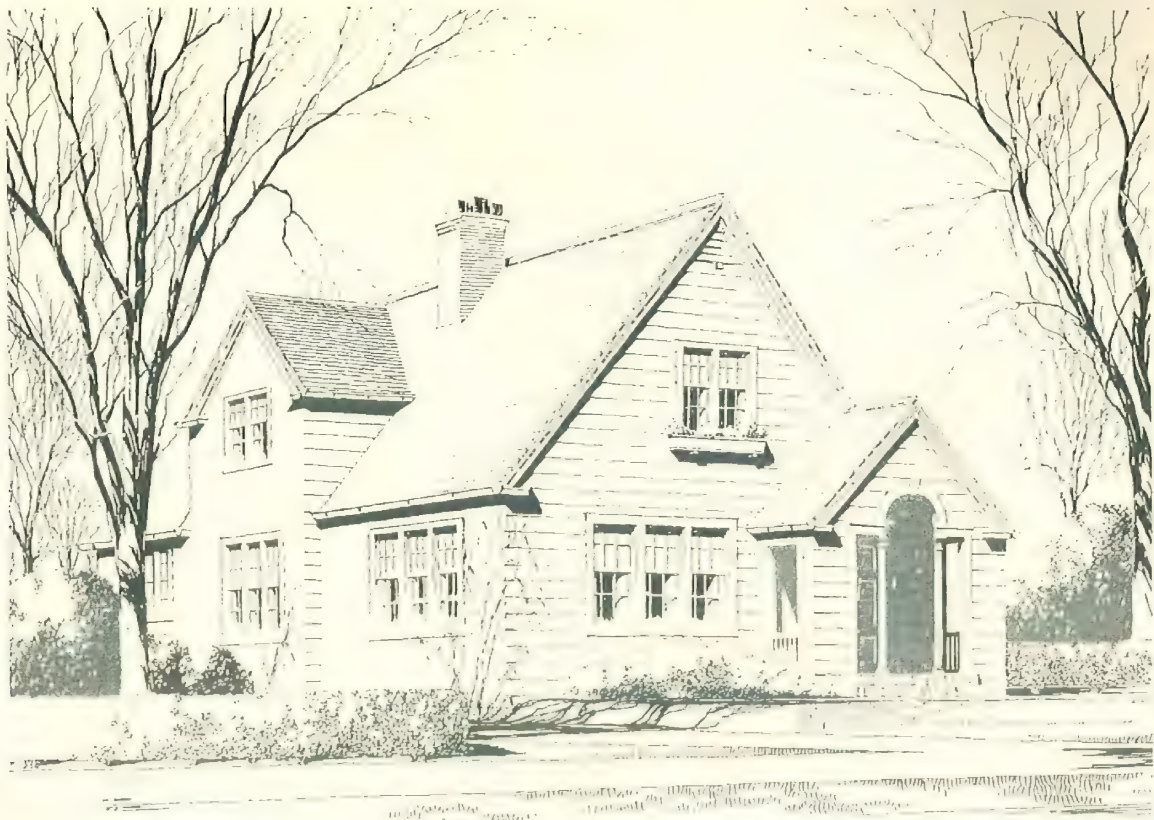
The omission of the basement and the provision for laundry trays, fuel bins, and storage space on the back porch make these bungalows particularly suitable for southern lands, but they need not be restricted to warm climates alone. There is provision in the hall for a heating plant of adequate size to heat the whole house in coldest weather.

Construction: wood frame, stucco exterior, roof preferably of tile. Only one floor plan is shown as both houses have practically the same room arrangement.

visible for anyone who is planning to build to investigate the cellarless plan.

It is not intended that these statements shall be of a sweepingly general nature. The idea of the cellarless house is simply presented for careful thought to the one who must build at the least expense. The answer as to whether or not the basement will be used depends very much on the particular case. Certainly it will not be satisfactory to everyone, but before you pay out money for a cellar, prove to yourself first that the cellar is worth what it costs.

The three bungalows opposite and the two on this page are designed for mild climates. They do not have basements and the plans do not provide for them. The heating plants are located on the first floor. However, basements could be arranged to accommodate central heating plants. In any case, if the walls, floors and ceilings were thoroughly insulated, as they should be in every home, these houses may be kept warm in cold climates and cool where it is sultry. There is no reason why these bungalows could not be constructed in any section of the country. As designed they are suitable for warm climates, and they can be made comfortable for the severest climates.



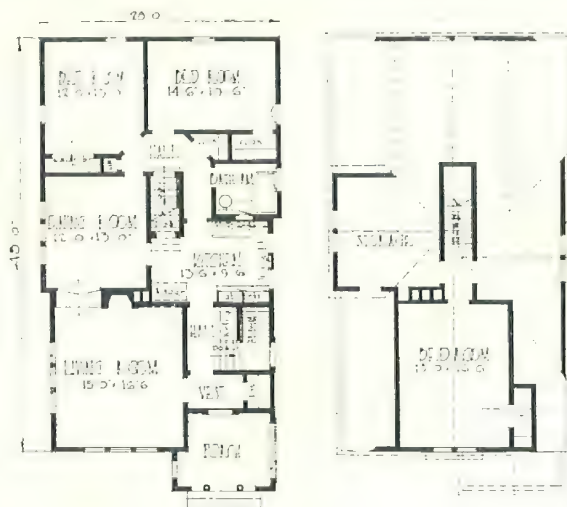
ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-C-2

HOMES ARE THE BACKBONE OF OUR NATION

IT IS frequently said that our American cities are being overbuilt. It is certain that in some cases there has been too much building of apartments but an expert on housing betterment recently stated that he knew of no growing city in which there is a surplus of private dwellings for families of modest means.

Yet this group of our population is the "back-bone" of our nation. If their children are condemned to grow up in tenements or in ugly, unsanitary, ill-kept rented houses, our national progress is definitely retarded. Residence in apartment houses may do no harm to bachelors and to childless families, but the growing child needs for its best development a true home with plenty of sunshine and fresh air, privacy, and plenty of room indoors and out for wholesome play.

The tenement or apartment child must live in the noise, dust, and confusion of crowded buildings and crowded streets. If it plays in the home the neighbors are annoyed; if it plays in the street it is in danger and the mother has no opportunity to choose the child's associates or supervise its play. But in the private dwelling the conditions of life can be controlled. There may be light and air on all four sides so that any room may be a healthy playroom. The child can work with a hammer and saw without disturbing neighbors and the mother can choose the child's playmates



FOR A FORTY FOOT LOT

Possible plans for the most economical types of small homes are not many. The plan of the design shown above is one of the most useful and hence is shown frequently in this book, with minor variations.

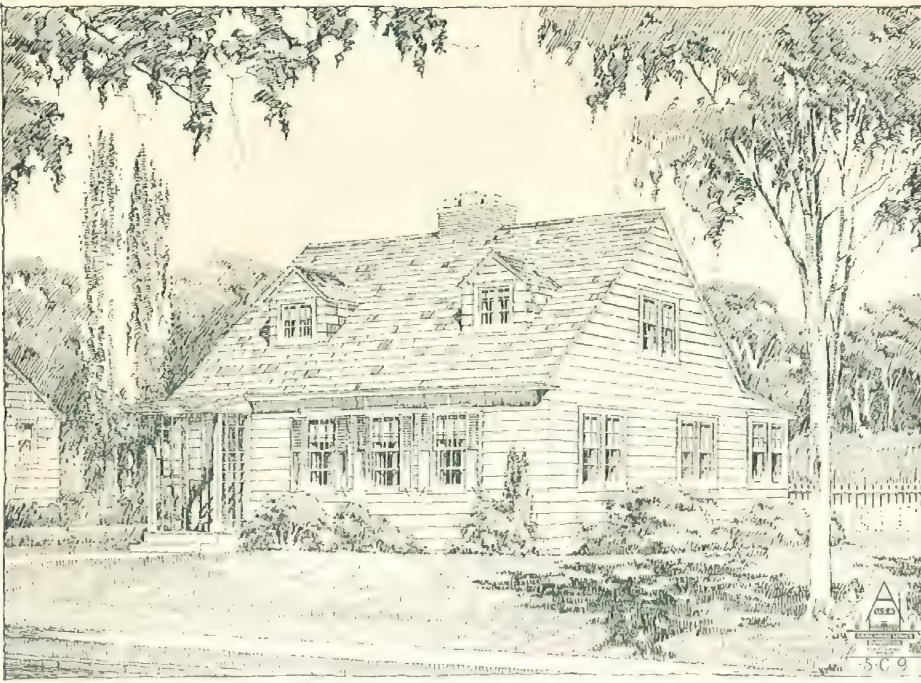
and direct or supervise its play until it is old enough to go safely to the community playground.

There is more opportunity also for parents and children to engage in common activities and get to know each other better, so that the child may have the advantage of intimacy with its parents and share with them the memory of many common inter-

ests and of common undertakings. The better home, therefore, should be attractive in its architecture, a home of which the family may well be proud.

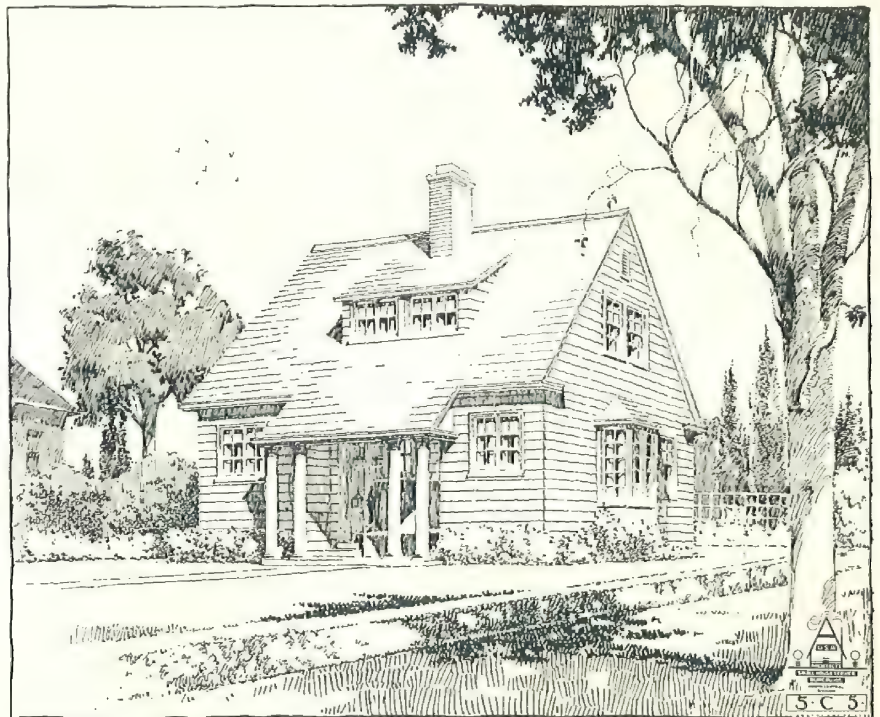
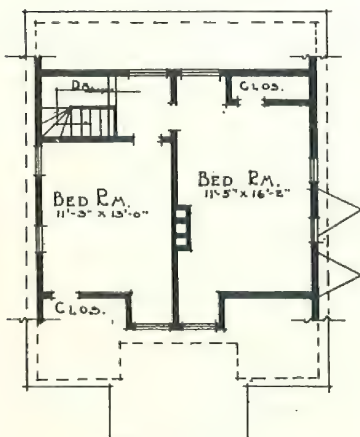
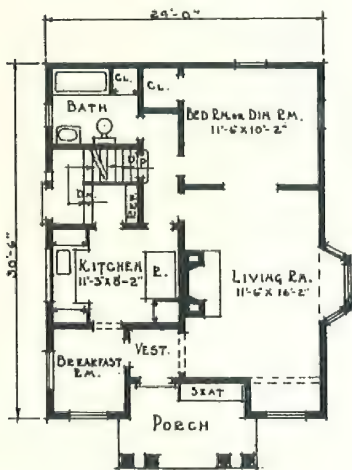
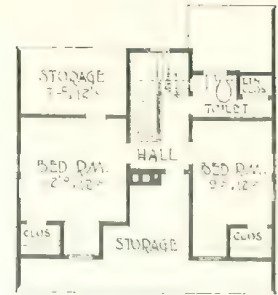
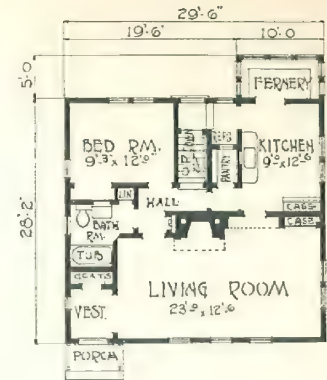
This home should be well-built or otherwise it will be a source of continuous irritation and care. There should be attractive planting ground around it, for the charm of the home lies largely in its surroundings. It should be designed for convenience of household operations, for otherwise the energy of the home-maker will be drained through needless and irritating drudgery. It should have the equipment which makes for efficiency in household operations. It should be furnished for comfort, for otherwise its members will spend their leisure elsewhere. It should provide for privacy because the development of family intellectual and spiritual life is dependent upon opportunity for undisturbed study and meditation.

Equally important is the possibility of home-ownership. The tenement or apartment dweller is a nomad, a wanderer. All too frequently he fails to put down roots in the neighborhood in which he dwells, does not take interest in the church or the lodge or citizens' association, or in the affairs of government. The home-owner on the other hand has a stake in the community. He is interested in the affairs of his district. Widespread home-ownership is necessary if there is to be soundness in our public affairs.



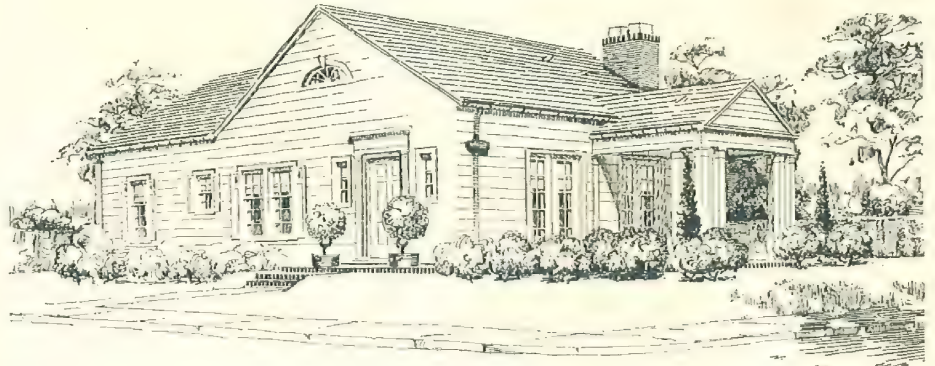
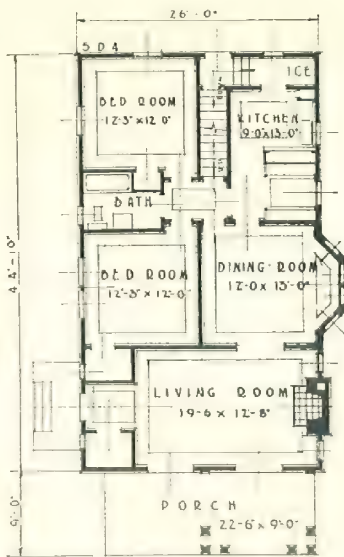
DESIGN 5-C-9

THE home builder who insists on having a dining room may as well pass this pretty home by, for this plan has no such room. It has, however, a large living room in one end of which may be set the dining table. A dining alcove may be arranged in the kitchen, or the space marked "Fernery" may be so used. The first story of this house is practically complete in itself. There is space under the roof for two bedrooms, toilet, and two storage rooms. Exterior finish wide siding or shingles.



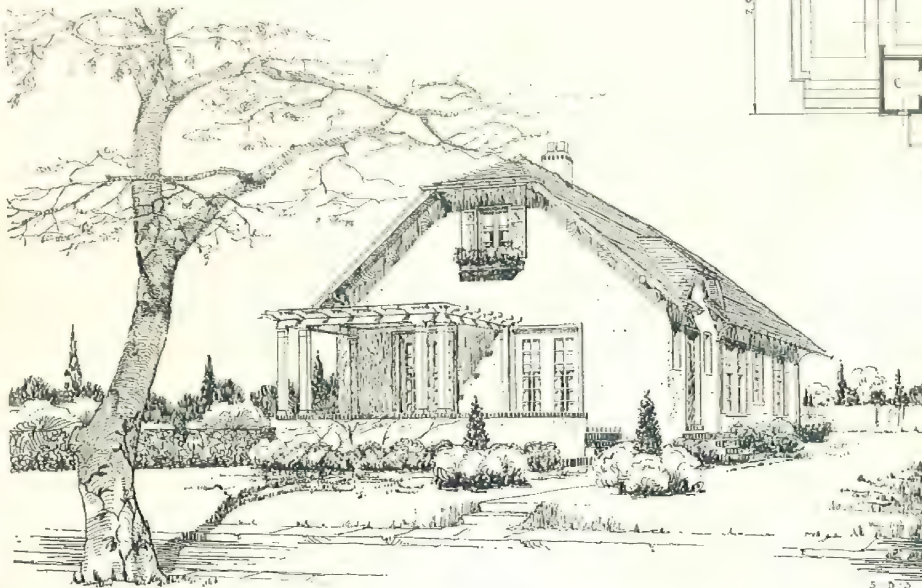
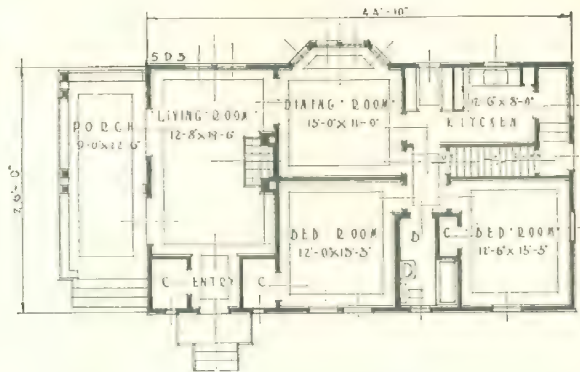
DESIGN 5-C-5

THIS home design, like the one above, is complete as a one story house and has additional space in the second story. The home builder may wait until a later date to finish these rooms. When these are added, the owner may convert the first story bedroom into a dining room. A convenient little breakfast room remains for informal service. Exterior finish wide siding, roof of shingles. Houses with plans similar as to first floor arrangement will be found on page 9.



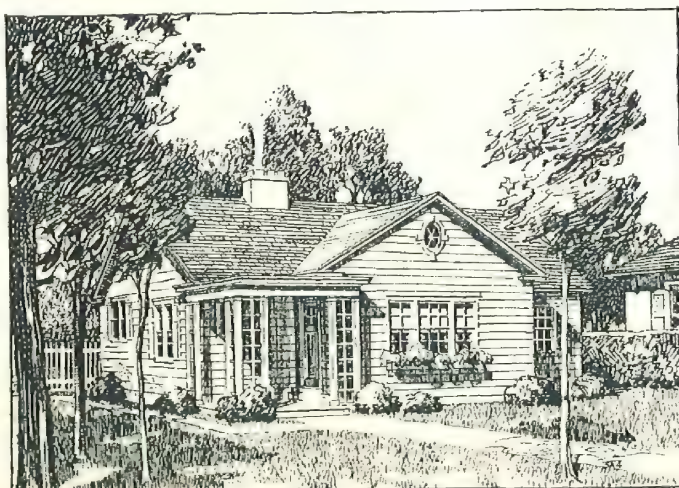
DESIGN 5-D-4

MANY HOME BUILDERS
LIKE A FRONT PORCH

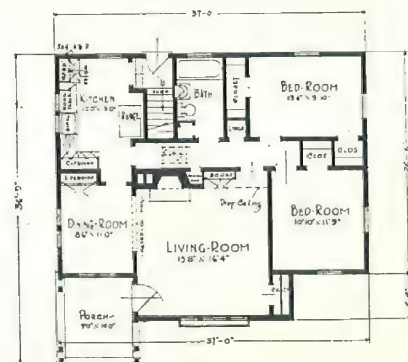


DESIGN 5-D-3

DESIGNS 5-D-3 and 5-D-4 have practically the same room arrangement, except that the plans are reversed. Design 5-D-4 has a Colonial exterior designed for exterior finish of wide siding or shingles, while design 5-D-3 has exterior finish of stucco. The entrance is at the side in each design.



DESIGN 5-A-4



AN unusual plan built around the living room. The dining room is large enough only to accommodate table and chairs, not the large expensive room found in many bungalows.



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-D-29

SOLID GROUND NECESSARY FOR BUILDING SITES

THE foundation of a building is not primarily the basement wall or the footing below, but what is beneath the footing. Many a lot is wholly unfit for home building because the soil on which the footings must rest is not sufficiently strong to support even the comparatively light walls of a house. Depressions filled with tin cans, brush, ashes, and other refuse, topped off with luxuriant turf, and sold as accredited building sites are just as fraudulent as gilded bricks sold for gold.

Swamp ground covered over and made level superficially may have the appearance of a sound home building site, but fundamentally it is a hazardous speculation for the man who cannot afford the expensive type of foundation which lots of this kind require. It takes solid, compact earth to support a building uniformly so that one part will not settle the least bit more than another. No one can tell how long it will take swamp land or fills of ashes to be-

come consolidated. The wise thing is not to attempt to build on such property. The careful buyer learns about these conditions as a matter of course, but even after the best intelligence is used in selecting a site, it not infrequently happens that the excavation discloses pools of quicksand, substrata saturated with water, ledges of rock, gravel in one place and clay in another—conditions that will make wall building difficult.

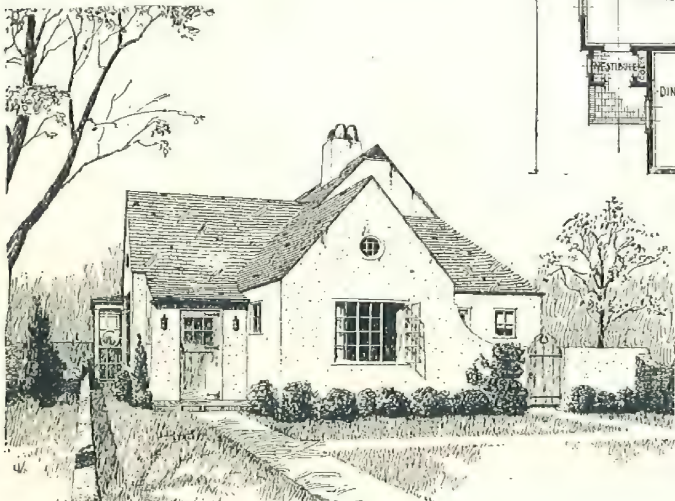
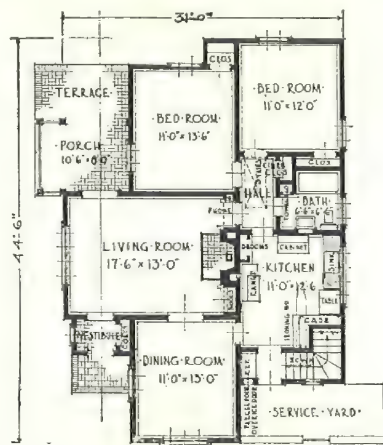
If the excavation does show forth these conditions footings must be designed ac-

cordingly, for these different types of soil have supporting powers of widest variation. Some are no more substantial than soft mud, which will not even support the weight of a man, much less that of a wall.

The designing of foundations for residences is considerably less complicated than it is for large buildings. The load exerted by the weight of foundation walls and everything above them is fortunately not great enough to require extensive footings. However, this does not mean that we go to the other extreme and give no consideration whatever to the problem. It will be seen how futile it is to build foundation walls for dwellings in a stereotyped manner as though all soils were alike.

Many an old foundation wall reveals prominent diagonal cracks. These indicate that the wall had to act as a beam, that somewhere the supporting soil failed and the wall then had to span from one solid point to another. That made a beam of it. But walls are not designed for beams.

No amount of expert planning of the house or of beautiful modeling of the walls and roof planes will save that cracked foundation if the materials below the footings are irregular or poor and the footings have not been designed for these conditions.



AN ENGLISH COTTAGE

Here is an English cottage of pronounced flavor. The massing of the gables and informal arrangement of plan give it this quality unmistakably. We show the perspective here and a photograph of the completed house above. The added sun parlor is not a part of the working drawings. Other minor changes were made by the owner, most notable among which are in the windows and roof over the entrance. The service yard before the kitchen entrance is shielded by a wall and rustic gate. Construction: wood frame, exterior finish stucco, roof of shingles.

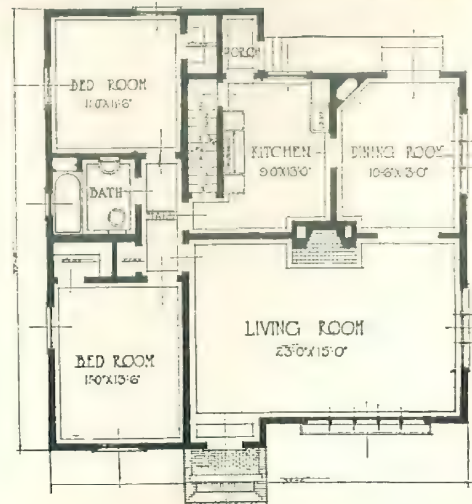


ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-E-1

ENDURING BEAUTY

This small home combines a fine exterior with a fine plan. Houses of this kind are not seen commonly in our residential districts. Simplicity dominates. Little things, well planned, add charm; such as solid shutters, red brick steps against white walls, graceful doorway, grouping of windows. It is a type that will outlast passing fads and fancies.

Construction: wood frame, siding or shingle exterior, shingle roof. The walls should be stained or painted white, with green blinds.



ARCHITECTURE NOT MERE DECORATION

MANY people think of architecture as the decorative side of building. But true architecture has two other elements without which all the decoration in the world is worthless. One of these is the plan or room arrangement. The other is the construction. Good architecture has fine appearances without extravagance. It has a commodious, comfortable plan without waste space and with privacy. It has simple, straightforward, durable construction without a penny wasted.

Too often, unfortunately, the contractor not schooled in architecture thinks he adds architecture to a house by jazzing it up. He tricks up the rafter ends with a band saw, hangs out little meaningless balconies, puts chain lighting brackets under the cornice, spreads pergola porches around indiscriminately, fixes squirrel tails to the gable ends. Even though each one of these details were fine in itself it would not make architecture. The underlying construction is the real architecture. Decorative effects, good or bad, are the mere froth of building, like the grace notes or trills in a piece of music. Unless the tune is right you cannot stand the trills.

Our streets are lined with houses with an appearance of the most ephemeral sort—popular only for the moment. In a few years we shall be tired of them. Good architecture is just as interesting in appearance but it has the additional virtue of remaining interesting. We can live with it year after year. It never becomes tiresome. Think now of houses you know that are old fashioned, ugly, out of date, houses that no one will live in. But all old houses are not like that—the New England Colonial houses for example. And your house may have just as fine and distinct an architectural quality as those old homes of Colonial days.

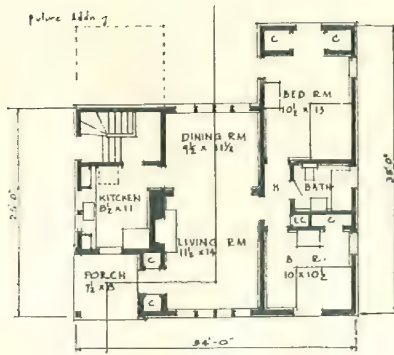
EMPLOY GOOD BUILDERS

It is also true that thousands of homes have been built in recent years with no decent consideration for durability. Money has been spent on the flashy things, as though it were possible to hold a house together with a coat of paint or ornamental plaster. When floors sag, walls crack, plumbing leaks, you see the results of unsound building. What counts is underneath

the finish. You cannot see it. When the builder omits braces, uses beams that are too light, does not give them the support they should have, you may not see the effects at first, but you will see them later on.

Then there are houses in which the third element of good architecture is lacking. They have plans that are not well arranged; not thoroughly studied. Plans in which some one let his enthusiasm for one detail or another take such precedence that the straight forward reasonable relationship and balance between parts has been lost. Houses that have kitchens in which the housewife wears out her strength preparing meals; bedrooms illy lighted, poorly ventilated, without wall space for the furniture; bathrooms with fixtures publicly displayed at the front door; and floor space cut up into useless halls and passageways.

A house of true architecture costs no more, excepting perhaps a little at first, than the ugly, poorly built house. It costs no more at any time than is necessary to insure you the absolute minimum of sound construction.



ANOTHER SMALL HOUSE THAT CAN GROW

Complying with what has come to be an American tradition in small home design, the living quarters here have been arranged to provide one great open space. Yet it is possible to separate the dining room from the living space to any extent that may seem suitable to the home builder. A third bedroom may be added at the rear, accessible through the rear hall. The dotted lines show the position this room would occupy.



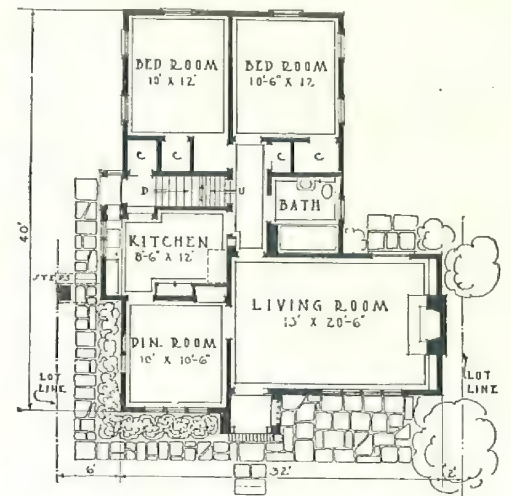
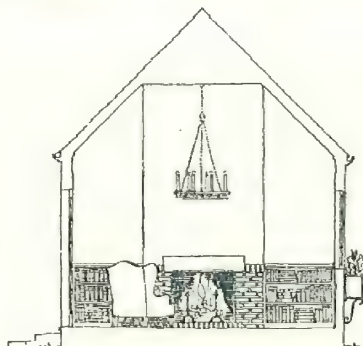
DESIGN 5-D-27

THIS design traces its origin to the Colonial period. It is characterized by unusual simplicity of form and detail. Yet the simplicity is not of a rigorous order, for, through grouping of the front windows of the living room and breaking of the main cornice over the front bedroom window by a small gable, a degree of informality is obtained. Construction: wood frame, exterior finish siding, shingles or stucco, roof of shingles.

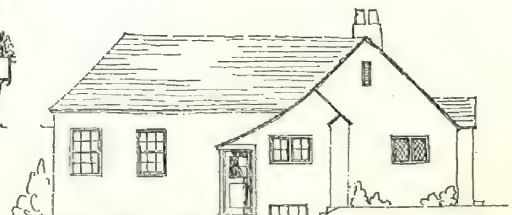


DESIGN 5-D-35

THIS design is reminiscent of the small country homes of France and England. You will find throughout this booklet a number of designs with floor plans essentially the same—that is, with this basic arrangement of living and sleeping quarters—but this home is given a completely new quality through the management of the living room. Here it is an extremely important part of the design, as it should be. Imagination does not have to go far to visualize the pleasantness of this room with its great windows, its massive fireplace flanked by tiers of books, and opening onto a garden at the rear.



This house has a studio living room. The ceiling follows the line of the rafters. The section below shows how. A sense of spaciousness and distinction is secured at moderate expense. Construction: wood frame, stucco finish, roof of shingles.

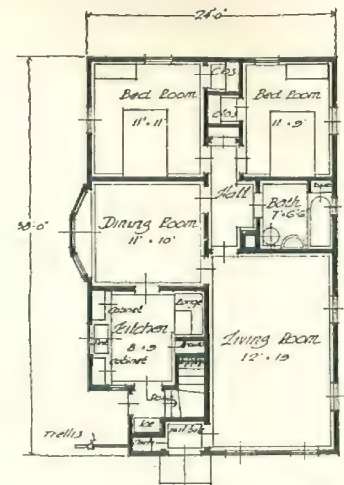
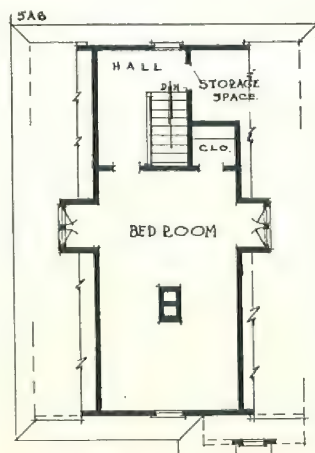
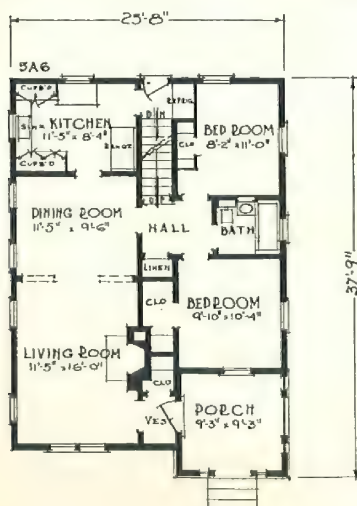




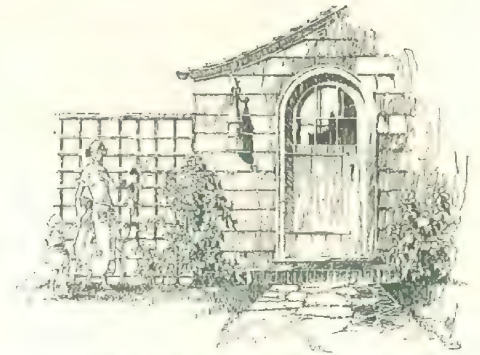
DESIGNS for small houses come and go. Most of them go. The tricky, novel effects are interesting often only for the time being. After a little one tires of them. Certain styles remain in good taste as long as the house endures. Here is a home of that quality. The exterior finish is weathered gray shingles.



DESIGN 5-A-6



DESIGN 5-D-33



ARCHITECTS' DRAWING OF ENTRANCE DOORWAY

POPULAR AND PRACTICAL ROOM ARRANGEMENT

WHITE clapboards, sage green shutters, green roof, white trim, make this a delightful small home, far removed from the average commonplace bungalow. The front porch has a lacy lattice ornamentation that adds greatly to the effectiveness of the exterior, a distinctive yet inexpensive form of decoration. The entrance and the main body of the house are tied together in design by the so-called "German-town hood."

This bungalow has a popular and practical arrangement of rooms with an exterior that will reward careful following of the plans. The plan makes of the living room and dining room really one large room, since they are separated only by a cased opening. The fine fireplace adds the spirit which only a fireplace can bring to a home. There is space under the roof for an attic bedroom.

The conveniences that mean so much to the housekeeper have been generously provided, including a coat closet, a linen closet, and in the rear entry a place for the refrigerator.

In these days it is essential that houses of this size be compact in plan, with comfortable, spacious living rooms, small but adequate dining rooms; compact, well-planned kitchens; bath and porches where they are essential; and closet room to enable the housewife to keep the house picked up easily.



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-D-25

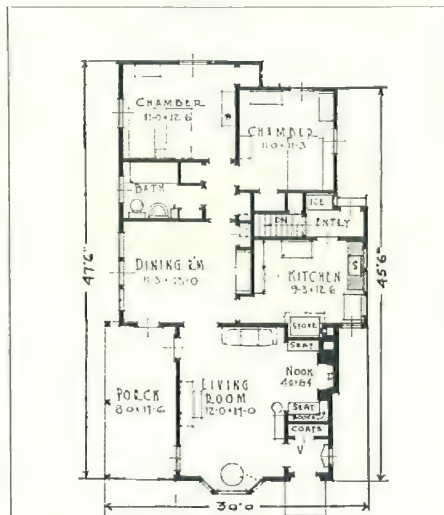
SHINGLES ON SIDE WALLS AND ROOFS

DO you know what a "shake" is? We mean an architectural shake. Our forefathers knew. They took a log and split it into the center, and from the sections thus formed split thin plates of wood that radiated to the center of the tree. These were called shakes. They were used for all manner of roof and wall coverings.

The other day a group of architects were given a very exact demonstration of the durability of shakes. Some pieces were shown that had been on a roof for over a hundred years. Their long life came from two qualities—one was the kind of wood used, and the other the way in which the sections were cut. The shingles we use today displace the shakes of olden times and if they are well made do not differ from the original excepting that they are produced by machinery, are not quite so long nor rough.

But there are two ways to cut a shingle. One is flatwise of the log, just as an ordinary board is cut. With the other the surfaces radiate toward the center of the tree. The latter is durable, will lie flat on the roof. The former is a cheaper grade. It will not last so long. Over a long term of years the "edge grained" or radial cut shingle costs the least. They are really quarter sawed like finest oak floors. The annual rings make parallel lines along the face of such shingles. When nailed on they are there to stay.

To the naturally fine texture which good shingles bring to walls and roofs may be added the extra virtue of color, for wood shingles can be stained most interestingly. Most of the paint used with shingles is



SHINGLED HOUSE

A living room of unusual qualities with a great ingle nook and graceful bay window. Three bedrooms. Construction: wood frame, exterior finish shingles.

used to cover shingles are more or less opaque. The paint manufacturers have developed their art so that the stains they use quickly penetrate through the entire thickness of the shingle. They are wood preservatives; they increase the life of the wood and add beauty.

While it is not possible to exaggerate the importance of having shingles cut "edge grain," there are other requirements that must be met for durable construction. One of these is to have thick shingles. They should not be less than two-fifths of an inch in thickness at the thick end. They should not be more than eight inches wide. They should be laid a slight distance apart, and the nails must be of the proper quality. It is futile to use high grade edge grain shingles, and to comply with all the other rules that make a good shingle job, unless the fastenings also are of corresponding high grade, for a well made shingle will outlast many times over an ordinary wire shingle nail. Good shingles must be laid with nails that are absolutely rust resisting. The ordinary wire nail will last ten or twelve years, whereas a rust resisting nail such as one made from galvanized cut iron or wire zinc coated, will last three or four times as long, will parallel the life of the good shingle.

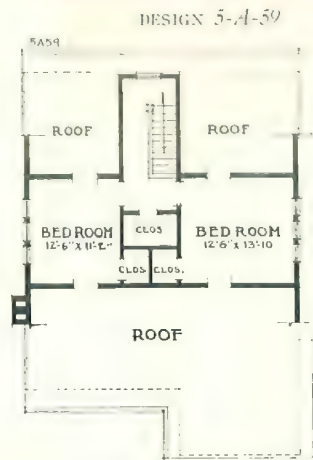
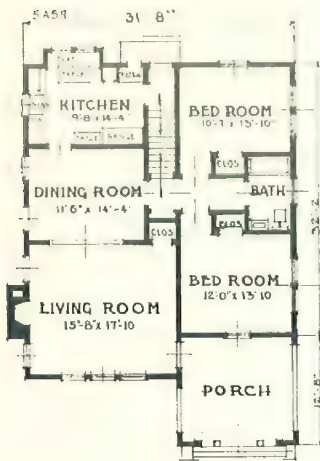
translucent so that the texture of the wood shows through. Even though all the shingles are stained alike their varying degrees of hardness give different intensities of color so that life and vivacity are obtained. Oxidizing oils like linseed oil are sometimes applied with finest effects. Some paints

Stained shingles are particularly adaptable to the side walls of homes. Perhaps one of the most effective ways of using shingles for this purpose is to employ the large size unit, which is twenty-four inches in length. When shingles are used for exterior walls their exposed width should be as great as the owner can afford.

DISTINCTION DUE TO FINE HANDLING OF DETAILS

OFTEN a single feature will lift a small home above the commonplace and give it charm and distinction. This is true of the bungalow shown here. The triple arch Palladian motif entrance to the porch is that feature. It is this graceful, beautiful entrance, with its slender columns supporting the central arch, and fine moldings that give it its marked individuality.

Looking through this book you will find many designs with plans similar to this, with the living room, dining room, and kitchen in line on one side and two bedrooms and bath on the opposite side. This arrangement is based on common sense principles. The construction is direct. The household management is simplified.



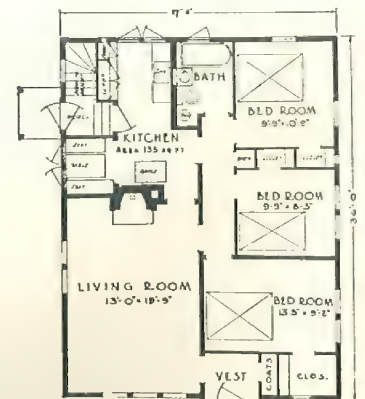
The beauty of the porch is no less impressive from this view. Architecture of this classic severity is particularly responsive to fine building. All the moldings, cornice projections, and the placement of windows and doors are essential in determining the fine character of the house. Make sure your contractor follows the drawings accurately.



DESIGN 5-E-3

HERE is distinction due to excellent proportions and skilful handling of details. Attention to the minor things, which often get little thought, give this small home character and reveal the skill of the architect. This house provides excellent accommodations. It includes the comforts, conveniences, and equipment of a modern home. At the same time it is inexpensive to build. Exterior finish can be shingles, stucco, or siding.

Information Regarding Bureau Service Which Is Supplied With Each Plan Will Be Found on the Inside Front and Back Covers of This Book.





ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-D-28

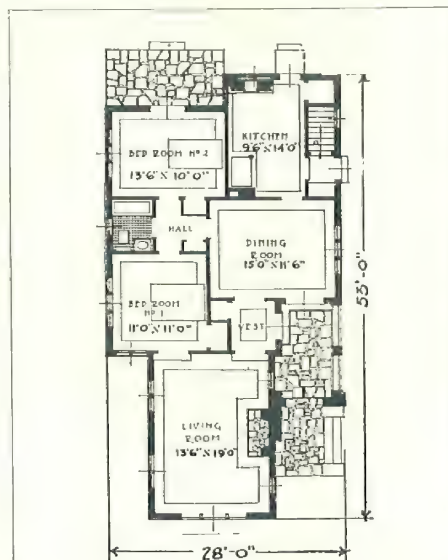
SOUND STUCCO WALLS—BEAUTIFUL TEXTURES

STUCCO is one of the substantial ways of finishing walls. Architects have known about it and used it for years, but like other materials used for wall finish it must be employed wisely. Wood rots, paint peels, shingles curl, bricks settle, and stucco cracks. These are all the consequence of faulty construction of one kind or another—not at all necessary if proper workmen and materials are employed.

Ask any good plasterer what makes stucco crack and he will tell you to employ him and it won't crack. To a very large extent he is right, but pin him down to an absolute answer and he will tell you that he cannot guarantee satisfaction unless the framework of the wall and the lath on which he applies his stucco are correct. He will tell you also that the plaster materials themselves have to be of a sound order, wisely compounded, and that they have to be put on under circumstances which make the most of tricks of the plasterer's trade.

Every good plasterer does his level best to turn out a piece of work that will be a credit to himself and his fraternity, but he must have something to put his good work on that will bear reasonable relationship to the high quality of his own effort. He asks first for good footings, sound foundation walls, and securely built superstructure or upper wall. Then if the wall is of wood he asks that the lath shall be applied in such a way as to recognize its function of holding the plaster in place. If metal lath is used it should be of the self-furred type, no strips employed, galvanized or painted, well secured to the backing, and set so that when the plaster is in place it will be thoroughly embedded.

Now, if this good plasterer of ours is asked to state specifically why the other fellow's plaster cracks, he will list a good



A STUCCO HOUSE

Imagine this house with the gable twice as wide or with low pitched roof. Such a house would not have anything like the fine appearance possessed by this one. Its qualities are not gained by chance.

Construction: wood frame, stuccoed.

many items beside the frame work and lath, such as poor cement, faulty mixtures of the mortar. He will show that the poor plasterer often puts on stucco in coats too thin, hurries the work too much, that he does not keep his work wet down during the hottest days of summer. He may point out that many a conscientious but misguided

plasterer has gone wrong by trying to do too well, used too much portland cement in the mortar mixture—too little sand. The proper mixture for this sort of mortar is no longer to be guessed at by any plasterer.

For the preparation of the stucco itself methods have been worked out by scientific analysis, elements of guessing or chance have been eliminated. The plasterer who guesses at the mixture he should use of cement and sand, and chemical if chemical is used, is a "before the war" plasterer, antiquated, and he ought to be suppressed.

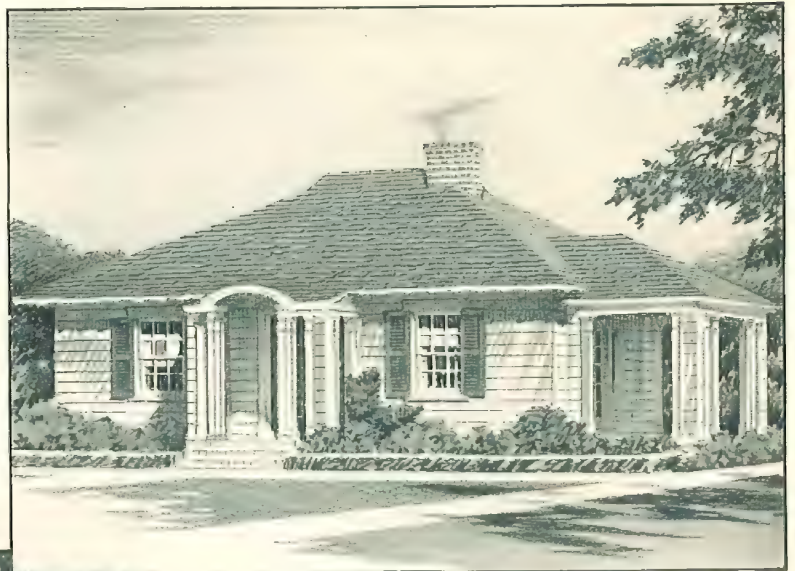
It requires an expert hand—this plaster job, and we must depend upon the plasterer for the result we want. The finish of the plaster requires something more than simply the ability to smear "mud." Happily manufacturers of exterior stucco, and interior plaster for that matter, have devised textures which conform rather closely to period design, for which they have provided directions for the guidance of plasterers so that the home builder may know in advance what he should get.

There are no more "ifs" about successful exterior stucco than there are about other exterior finishes for walls. We may anticipate thoroughly satisfactory results from this type of wall finish if the work is properly done. Locality has nothing to do with its failure, nor humidity of the atmosphere, nor temperature. It is not a matter for the soothsayers to determine. There is no old wives' formula by which one may be governed to get successful plastering. It is, as has been stated, a thoroughly worked out and standard program of wall finishing based on scientific analysis and formulae. Every first class plasterer has these formulae available. There are plenty of good plasterers. You may be sure of success if your plasterer follows these rules.

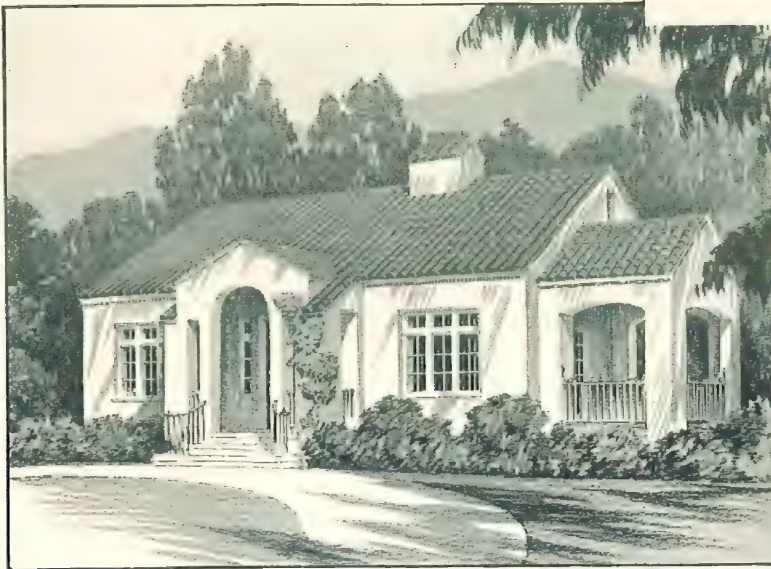
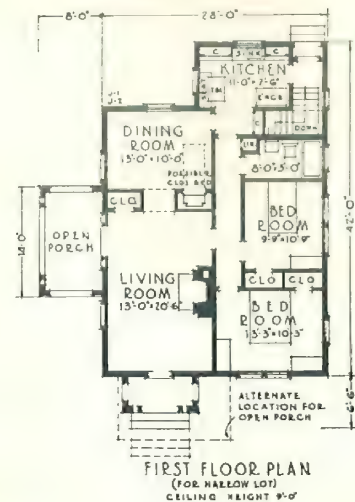
HERE are two bungalows with floor plans so nearly identical that only one is shown for both. Design 5-A-75, illustrated below, is distinctly of the California mission type. The roof of variegated red tile offers sharp contrast to white stuccoed walls. The iron work of the porches and steps may be either black or light green. The exterior of the design at the right is typical of the middle west.

The architect's drawings of the exteriors show the broad side toward the street, but notice on the plan how the narrow end may be turned toward the street with entrance through the end of the living room.

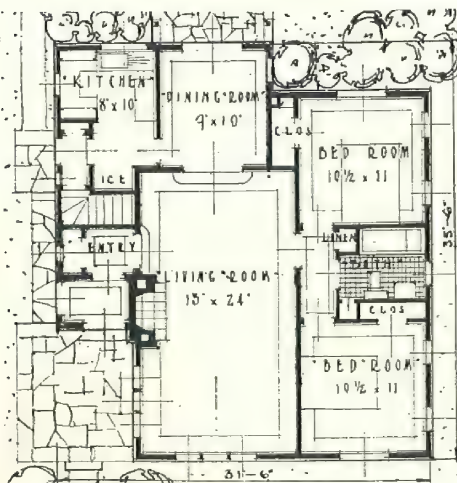
Construction: both wood frame, exterior finish 5-A-75 stucco, preferably tile roof; exterior finish 5-A-76 wide siding, roof of shingles, shutters are essential.



DESIGN 5-A-76



DESIGN 5-A-75



Descending two steps from the front entry to the level of the living room, the visitor will find himself in an impressive, beautiful room, of generous proportions, with a high vaulted ceiling.



DESIGN 5-D-26

THE designer has made skilful use of architectural refinements to increase the apparent size of this house, but as a matter of fact the cubic content is unusually small. In the proportions and massing of walls and openings lie the secret of much of its originality. The large windows lighting the fine living room also help to insure individual character and to set this house in a class by itself.

Construction: wood frame, exterior finish stucco, roof of shingles.

THE HOUSE THAT RESTED ON A SHINGLE

A HOME builder asked an architect to inspect his house when it was half finished. Only the framing was done. Joists, studs and roofing were in place so that all the bare bones of the building could be seen. Something made the owner suspicious, and he wanted an expert to give his judgment on the way the parts had been put together. This is what the architect found.

Midway across the depth of the house spanning from wall to wall there was a wooden girder supported midway by a wooden post. This girder was the sole support of one end of every joist that crossed the floor. It supported also all partitions above it and the joists of the second story. The girder span from wall to post was eleven feet—three feet more than is allowed by many a city ordinance—three feet more than is ordinarily safe. The architect told the owner that in time the girder would sag, floors would be uneven.

Why did the contractor make the girder span so far? Why did he not follow the drawings? Probably he was ignorant, did not know about this ordinary rule of framing. Maybe he was trying to save a little money, having agreed, as the owner told the architect, to build the house for far less than anyone else had figured it.

But the framing of the post was even more interesting. The post rested on a boulder, not very large, that the contractor had found in excavating the basement. In setting the post he discovered that it had been cut a trifle too short, due to the uneven thickness of the boulder, so he had wedged the post up from the boulder with a bit of shingle. Now visualize the framing above—ceiling joists resting on studs, studs resting on joists, joists in turn supported by the girder, and the girder by the post. And at the bottom, that shingle. A house supported by a shingle. Yes, the

*A House Can Not Be Stronger Than
Its Weakest Bearing Post. Let
Yours Be Framed By Science.*

boulder was below that, a rickety, teetery boulder, found by chance in the excavation.

The owner said when he raised a question about this that the builder had told him all would be well, for when the concrete floor of the basement had been poured the base of the post would rest in the concrete and the shingle would be protected thereby and there would be adequate support for all the superstructure. But the architect knew that a post completely surrounded by concrete would rot at the base. He knew he could guarantee the post would rot, for long experience has taught that this is the inevitable end of wood completely embedded in masonry. The shingle was wrong. The embedding of the post was wrong, and the footing below the shingle was a masterpiece of error.

If there is reason for outside foundation walls of a house to be of masonry—and who will deny it—there is almost as much reason that the inside basement walls supporting floor joists be of the same material. But if this cannot be managed then certainly the inside support for the joists should have a security that will match to some extent at least that supplied by the outside foundation walls. If for purposes of economy a wooden beam is used, it ought to go without saying that the beam should be of adequate size, frequently supported, so that a minimum amount of sagging will take place, and that the post below should be strong, framed so it will not rot. Below that post should be a footing, extensive, well constructed, soundly designed, in keeping with all the loads that it is to support.

But the architect found a number of other things to excite his interest. For one he was interested to see how the first floor joists were supported by the outside foundation wall. These joists were intended to rest directly on the wall, but to the architect's surprise he found that only about every fifth joist had this support. The others were hung from nails driven through the stringer—a heavy plank that is run along the ends of the joists, parallel with the wall, and resting directly on it. Now, as it happens, floor joists do not have the same uniform depth. There is a variation between them due to the fact that they shrink unevenly. These uneven joists must be framed so that their tops come to a common plane so that the floor will be level. This means that the bearing must be raised or lowered for each joist to accommodate its particular depth. The bearing should be of masonry.

Occasionally this hasty builder had driven wooden wedges under joists that were too shallow, a practice of faulty construction called "shimming." It would only be a question of time until those shims would dry out, shrink, leave the joists in the air as they were in the beginning. In a few months the joists with bearings directly on the wall would have to support all the load of the joists in between. Think of the squeaking, sagging, uneven floor. Think of the vibration. Think of the inevitable depreciation of a house built like this. Every joist should have had mortar slushed under it to give it a sound and unquestionable bearing.

The owner had good drawings. He had a good set of specifications, but he did not have a good contractor. He entrusted his home building to a man who was known to him only by hearsay, and because he put in a low bid. There are plenty of good contractors. Why take a chance?

WOOD USED WISELY BUILDS FINE BUILDINGS

TAKE wood. Perhaps there is nothing much more common. Everybody knows wood. We see it used for every conceivable household object. We know it is used to build walls and floors, we walk upon it, dance upon it, are buried in it. And yet what do we know about it after all—especially as a building material?

We put units of this material on end, fastened together at the top and bottom with nails, lay slabs along one side and slats on the other, apply plaster and paint, and call it a wall. Is that all there is to it? It is not by any manner of means. There are some engineering principles involved. There is necessary some recognition of the character of this material. It may be twisted, warped, distorted. It may be straight as an arrow. It may be full of knots, splits, checks and cracks. It may be absolutely without blemish. Perhaps none of the

wood we use in building, excepting that for the very finest finish, is wholly without blemish. It is not straight and true and does not remain so unless we take steps to keep it true to line and to the trust we impose in it. But this is easy to do.

Furthermore, wood is, in a remote way, like a sponge. Get it wet and it swells. Dry it and it contracts. This makes another problem that has to be managed in building, for that contraction and expansion has cracked many a wall.

There are thousands of wooden walls recently built by "Jerry" builders and others who know nothing about this material save that it can be cut by a saw and that nails can be driven into it with vast rapidity. These walls will be out of line, warp, crack their plastered surfaces, and become generally dilapidated 10 years from now. All

because these "Jerry" builders do not know what every builder should know about wood—that it must be trussed, it must be well nailed, it must be bridged and blocked and fastened securely. And every builder must know about the necessity of preserving wood, of having it well seasoned.

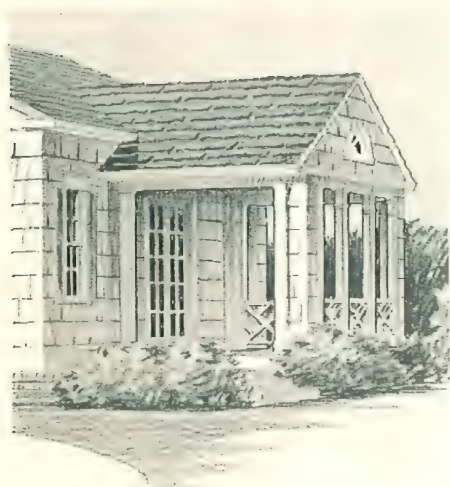
If there should be the slightest doubt in any one's mind about the soundness of wood construction for small houses, when that wood is used properly, it is only necessary to remind him of the old Colonial houses built of wood that are still standing—houses that are almost as good as new—almost as sound now as the day when they were put together.

Wood is a sound and durable material. Its plenty and cheapness and its workability make it the logical material for the building of many small homes.



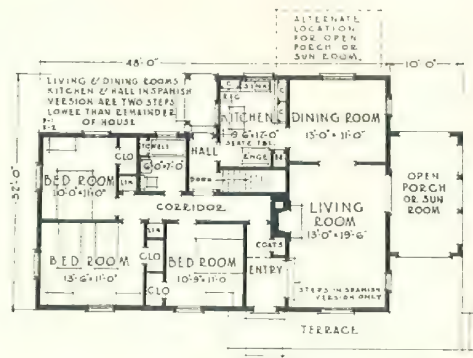
DESIGN 6-A-91. SEE INSERT BELOW FOR PORCH AS SHOWN ON THE ORIGINAL DRAWINGS

SOME SOUTHERN TYPES FOR WIDE LOTS

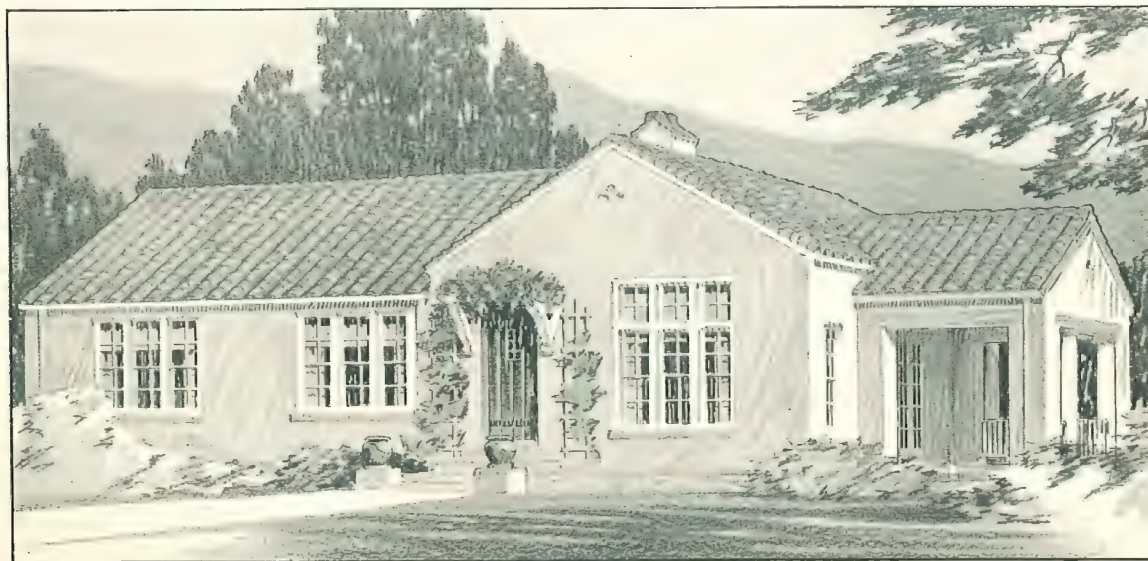


THE architect's drawing below of 6-A-92 shows an exterior of Spanish character with practically the same floor plan as that of the Colonial design. Only in the Spanish design are the floor levels changed as shown in the floor plan.

Construction: both wood frame, the Colonial design with an exterior finish of wide siding or shingles. Observe how effective are the shutters in the design. The Spanish home has an exterior finish of stucco, roof of tile.

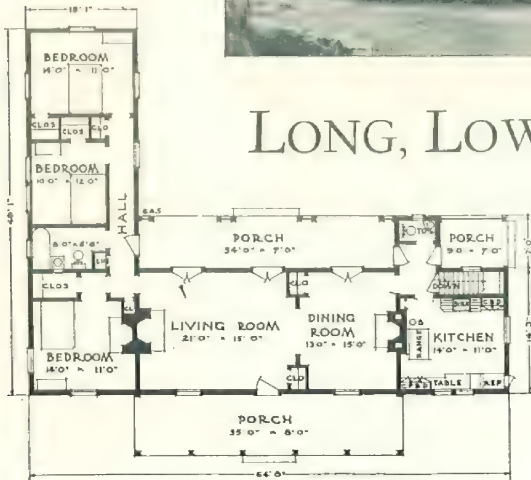


DESIGN 6-A-92





DESIGN 6-A-5



LONG, LOW LINES AND PLEASANT PORCHES

THE generous, hospitable porches, the long, low lines of the roof, the delicate Colonial details are suggestive of the fine old mansions of the South. The architect has achieved variation in the roof line by elevating the ridge of the central portion and bringing it down over the front porch. He has produced a central mass with less important wings on each side. The cornice line of all the parts is kept at the same level, tying the parts of the design together. The house rambles with ease and informality and clings closely to the ground. The illustration shows how the owner added a porch at the side. This is not included in the working drawings.

A suggested color scheme is that the siding, cornice, and columns be painted white, blinds blue green, roof stained variegated greens and browns.

TRUE DUTCH COLONIAL

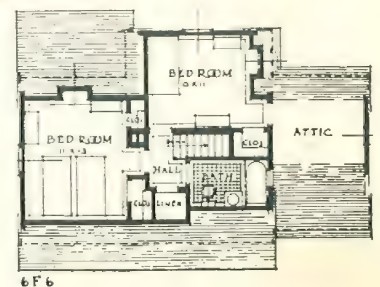
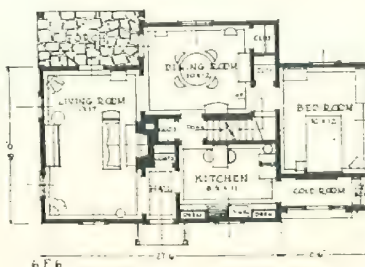
THIS charming little home design solves a problem—one that has puzzled architects for years. This has been to provide really modern living accommodations in the second story of a true Dutch Colonial home. The beautiful roof lines in this—the original American bungalow—have incited the admiration and despair of architects, for it has not been considered desirable in true Dutch Colonial architecture to pierce the sweep of the roof for dormer windows. To do this would destroy one of the most important elements in its beauty.

However, after long study this plan has been evolved as a real solution. The key to the solution is in the location of the stairs. You will see that by this means two bedrooms and a commodious bath are included under the roof, each with adequate light and cross circulation. As a result of this arrangement, the house is not a modern hybrid horror—a “Dutch Colonial” so-called—but an authentic Dutch Colonial house of the type built by the old Dutch farmers in the district near what is now New York City.

Construction: wood frame, finish of wide shingles, excepting on front wall, where stucco is used; roof of shingles.



DESIGN 6-F-6





DETAIL OF ENTRANCE—COVER DESIGN

COLORFUL SHINGLES AND FLOWERS IN ABUNDANCE

THE exterior walls are laid with twenty-four inch tan dipped shingles. The roof is covered with a plain shingle of brown color. The chimney is dark red, also the chimney pots. The trim is a twilight blue while the awnings are tan and brown.

The terraces are red tile brick; a curved sidewalk leads to the front door. The door is brown like the

roof. Lengthwise boards with big strap hinges and a thumb latch of dull bronze were used. A small nine paned window, rounded at the top, forms the upper part of the door. This is advantageous. The owners can see from within who may be on the outside before opening the door.

A long window box matching the walls with a blue moulding around

the top and four wooden brackets is filled with pink geraniums and balcony petunias. The house is landscaped with blue hardy larkspur and pink flowered shrubbery. On the opposite page a side view of this house shows it set among its flowers and shrubs with vines on the lattice work. Such a setting adds value to a house, and greatly increases its charm.

THE PICTURESQUE BUNGALOW ON THE COVER

*Excellent Plan, Easy to Build
and of An Essentially
Economical Type*

FORMAL houses such as those in the Colonial style are comparatively easy to design. Their orderliness is such that a good many problems about the massing of walls and roofs solve themselves. Of course, even in this type of building architecture does not result unless the parts bear proper relation to each other. It is not a job for an amateur.

But picturesque houses such as the one illustrated here, Design 6-B-30, are more difficult to design. The organization of these houses follows no definite form. Here the massing of the plan elements greatly influences external appearances. The sizes and shapes of rooms must have an interrelation such that the general exterior effect is fine. Architects call this composition. It is a process of modeling by which forms are arranged so as to achieve the best results both in plan and exterior.

Now if no limitations are placed on the architect as to the way in which he may model the plan, no restrictions as to cost or size, he finds the problem of composition or



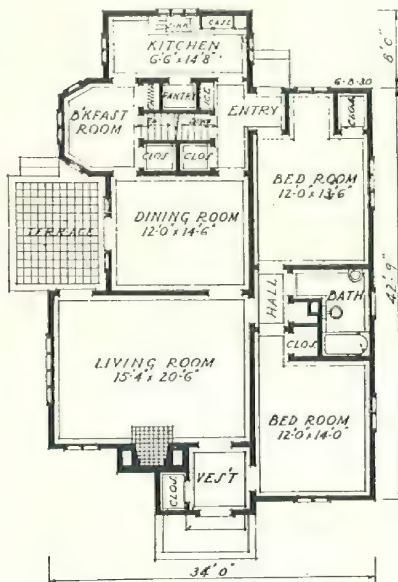
SIDE VIEW OF THE HOUSE ON THE COVER—DESIGN 6-B-30

THE COST TO BUILD

BUILDING costs depend upon local market conditions and what you demand in the way of equipment. Simple equipment costs less. Luxurious equipment costs more. There is only one satisfactory way to find out building costs in advance of construction. The Bureaus have provided a direct and inexpensive way to ascertain local costs. Plans may be obtained for a 15-day inspection and estimating privilege. See inside back cover for further explanation of this service.

This breakfast nook can be seen plainly in the illustration above, which is a side view of the house that is illustrated on the cover. The awning is over the terrace. Doors from dining room and living room open onto this terrace. It can be screened in for a summer porch.

An alternate plan, design 5-B-36, has been prepared without change of the front. The floor plan for this, and for design 6-B-30, the house on the cover, are both shown on this page. If the second story room of the six room design is omitted this becomes a true five room house to be compared with 5-B-36 as such. The latter is



FLOOR PLAN DESIGN 6-B-30

modeling somewhat easier. But for the small house such as the one shown above this liberty does not exist. The plan must be organized so that after all the work is done economy still remains. The house must be of a type such that its construction is not an elaborate matter.

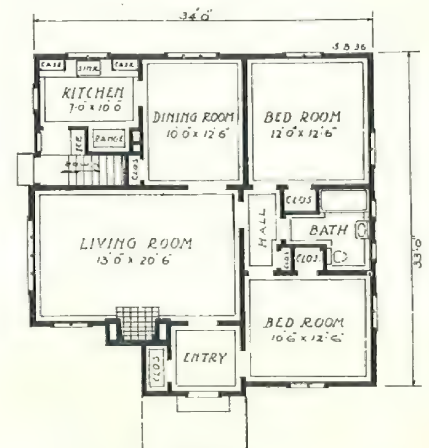
View this house then from this point of view. The plan is straightforward, easy to build, essentially of an economical type. The framing follows a definite procedure. It would necessarily be a little more expensive to construct than a house that had an absolutely rectangular form, yet the differ-

ence in cost is not great. How different though are appearances! Certainly the home builder is interested in this matter for it has a definite bearing on the amount of accommodation he can get for his money.

Here, too, the home builder will find a plan in which accommodations are finely worked out. The division made between living quarters and private quarters will commend itself.

The communications between rooms are direct. The designer has visualized the purpose of each room and has arranged them so they will fit well into the home keeping scheme.

To this six room house, design 6-B-30, the sixth room being in the second story, a single one, over the dining room—have been added vestibule, breakfast room, pantry, terrace and a generous fireplace. Going over the plan one finds countless details of interest. There is abundant closet space, a kitchen lighted on three sides, a breakfast room, which in the morning should be bathed in sunlight.



FLOOR PLAN DESIGN 5-B-36

more compact, less expensive to build, not so luxurious, nor with so many conveniences. Pocketbook must dictate the choice. The home builder gets a good house either way.

Construction for either design is wood frame, with a finish of wide shingles.



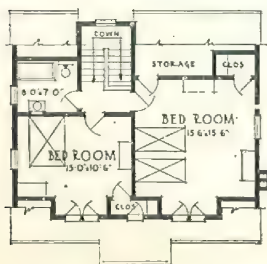
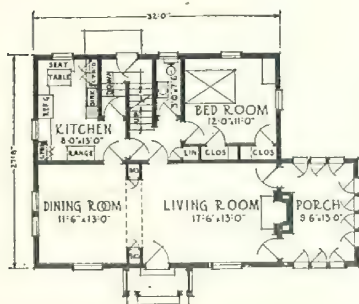
ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-A-48

THESE HOUSES ARE MUCH ALIKE IN ROOM ARRANGEMENT

PERHAPS you have in mind a certain plan but the exteriors you have found for it do not suit your fancy. The Small House Service Bureau has tried to answer this difficulty by making a number of exteriors for most desired plans. If your requirements are met by this general arrangement, here

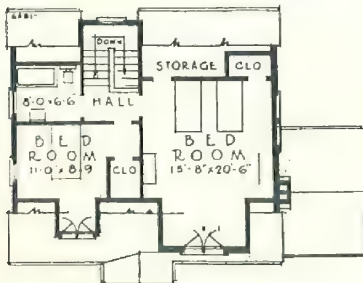
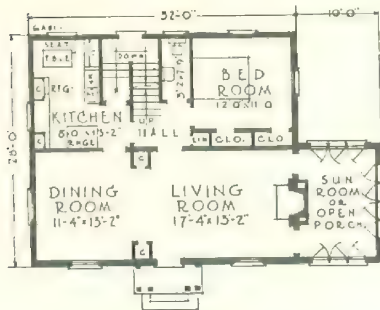
are four exteriors to choose from developed on practically this identical floor plan. On page 60 you will find two more.

The two houses shown on this page were built from exactly the same working drawings, but the wall finishes are different. The one above is of siding and the one below of shingles.





DESIGN 6-A-83



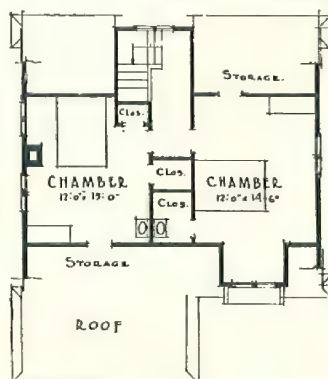
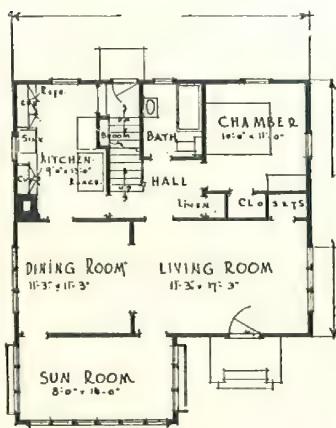
Construction 6-A-83—wood frame, exterior finish shingles, roof of shingles; 6-A-81 and 6-A-55—wood frame, exterior finish stucco, roof of shingles.



DESIGN 6-A-81



DESIGN 6-A-55

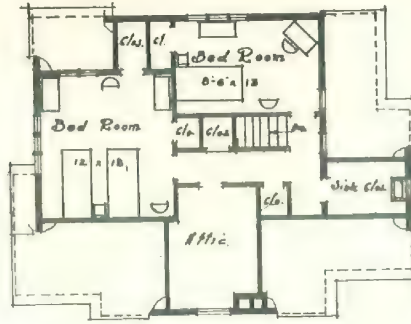
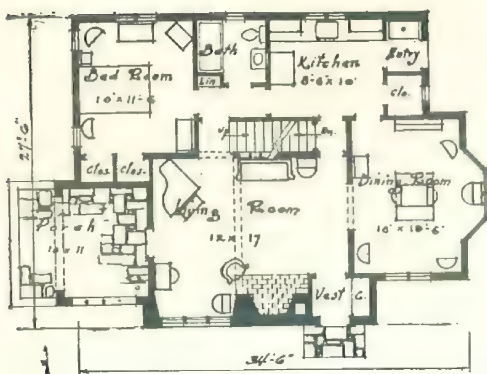


SUN ROOM PLACED AT FRONT

THIS house like the others on this page is designed particularly for future enlargement. The second story can be left entirely unfinished for the time being because a bedroom and bath have been provided on the first floor. Undoubtedly it would be less expensive in the long run, all things considered, to finish the house completely in the first place, but the home builder may not have the money or the need for the extra space at first.



DESIGN 6-F-11

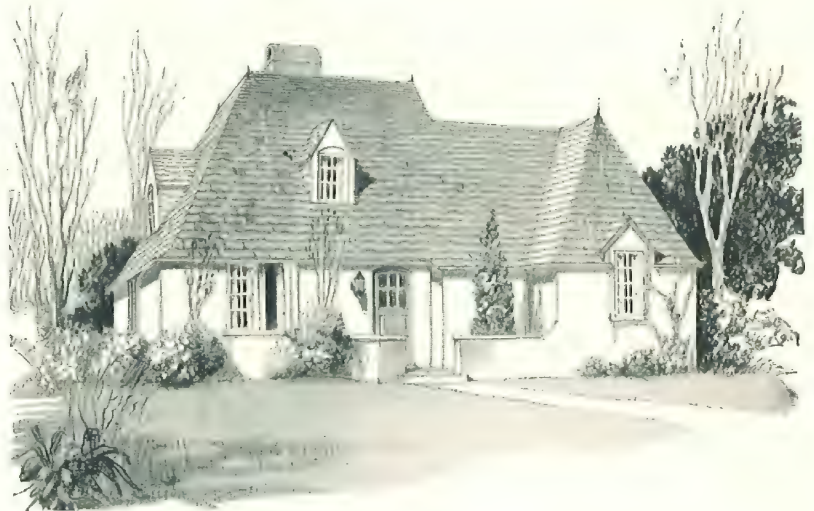


STREETS WOULD BE MONOTONOUS IF ALL BUILT ALIKE

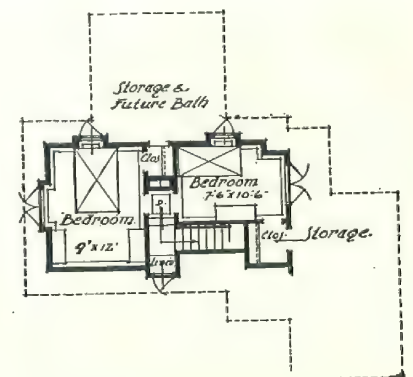
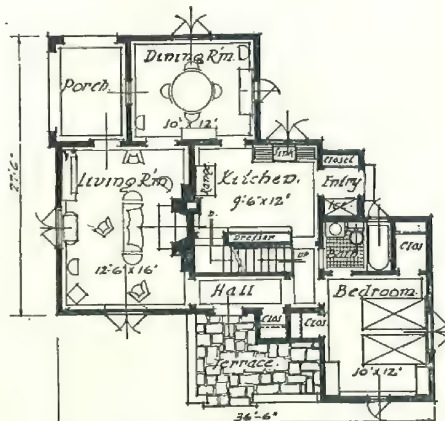
AS much at home in some of our beautiful American countryside as on English and French soil, are the two designs on this page, which are adapted from old world cottages. The construction is wood frame, exterior finish stucco. 6-F-11 has brickwork in the front wall part way up the first story, and siding in the gable ends. The casement windows in these designs may be of metal or wood, as desired.

OUR streets and countrysides would indeed be monotonous if everyone elected to build a square or rectangular house. It is fortunate that there are many who prefer homes of pleasantly irregular outline, houses that ramble picturesquely over the lot and are charmingly unconventional in their room arrangements. In the old country the houses which have inspired much of the recent small home building in America have gained their picturesque qualities often from having been built bit by bit as the years went along, a wing added here, a bay projected there.

High roofs are characteristic of the English and French types, but it would not do from the point of view of fine architecture for the architect to borrow this quality unless it has some purpose in his design. The large space gained under the roof must serve a use. In the houses on this page the high roof has been turned to advantage so that it includes two excellent bedrooms with space for a bath should the owner desire to add this additional feature to the second story.

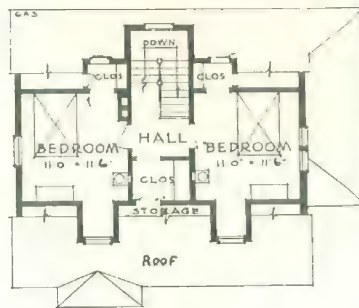
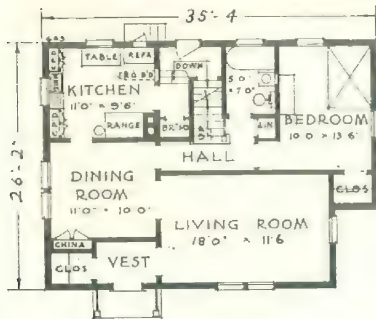


DESIGN 6-F-12





DESIGN 6-A-3



SPACE UNDER ROOF FOR BEDROOMS

THE house at the left does not quite keep pace with the others on this double page as to irregularity of plan, but it has a beauty of its own gained from the trim severity of its Colonial forms. Like many other plans in this book, it will be found that the first floor is complete in itself and the second story bedrooms may be finished later on.

There is probably no more popular or satisfactory arrangement of living and dining room than the one offered by this plan. The wide cased opening between the two rooms is a decorative feature. At the same time it increases the apparent size of both rooms. The finely proportioned living room has double windows on front and a side window to offer still another outlook. Wall space is provided for large pieces of furniture.

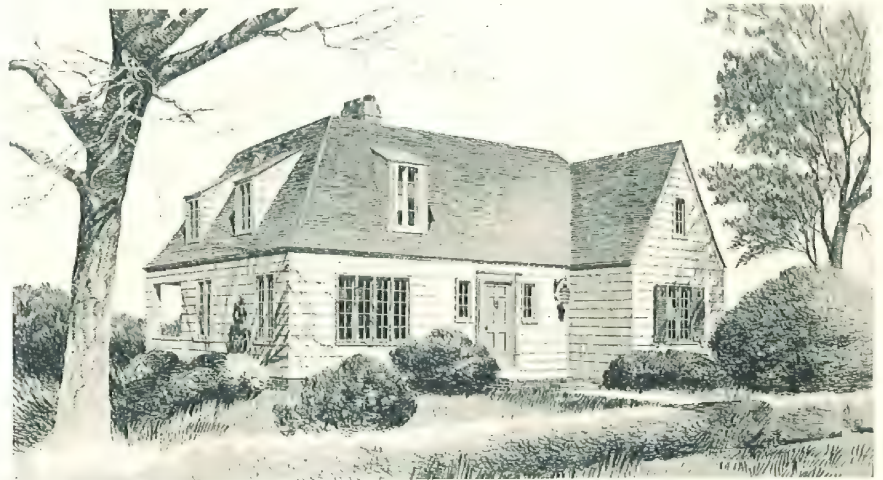
Construction: wood frame, exterior finish wide siding or shingles, roof of shingles.

THE program of rooms in this design—the general scheme of arrangement—is similar to 6-F-12 shown on the opposite page. The second stories though, vary because of the different types of roofs.

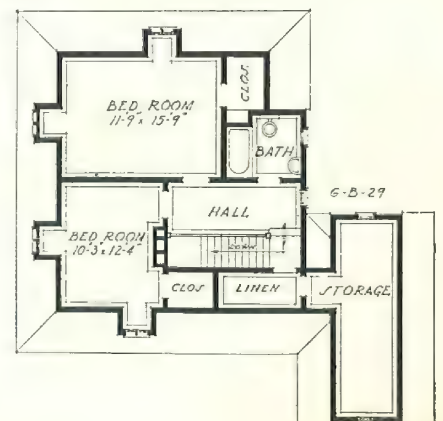
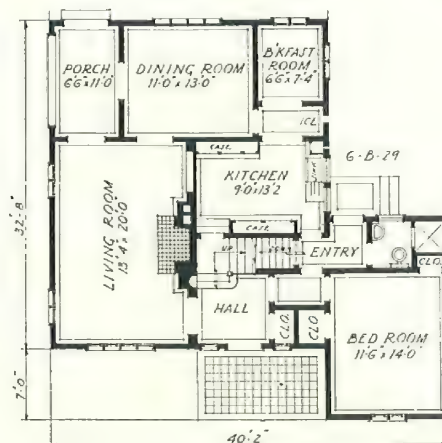
It is customary to assign architectural types to many of our small houses, especially those that have details characteristic of the homes of foreign lands, but the style of these houses is really American, as this one is, though here the influence of the French mansard roof may be seen.

About the first floor there is an agreeable air of spaciousness rather remarkable for a house of this size. There are six main rooms; living room, dining room, kitchen and bedroom on the first floor, and two bedrooms on the second floor. In addition to these, however, the plan provides a porch, a breakfast room about seven feet square, first floor lavatory with shower, a second bathroom and a large storage room upstairs.

Construction: wood frame, exterior finish siding or shingles, but stucco may be used.



DESIGN 6-B-29



HOME FINANCING FOR SMALL HOME BUILDERS

Few Can Pay for a Home Outright at the Start

PROBABLY the best and cheapest method of financing is through a first mortgage, but the first mortgage presumes that there is an equity behind the mortgage of at least 125% of the value of the mortgage. Many financing organizations will not lend on a first mortgage anything like as much as this. They require a ratio of 140% or more. Thus the home builder would secure only 60%, or perhaps as little as 40%, of the whole cost of the building plus the value of his lot, but when the security is so substantial the risk to the mortgagee is less and the price of his service in the form of interest should be less.

The person or agency that lends money on a first mortgage looks for his basis of security in more than the cost of building the house. He wants to know what kind of a house is to be built with the money. If he sees from the plans and specifications that sound construction is not contemplated, he will be extremely wary. He probably will not lend as much money, if he will lend any at all, or he may charge a higher rate of interest. He knows that a good set of plans, produced by a reputable architect, is the first requisite to the fine type of building in which he wishes to invest his money or that of his client. He will also want to know about the contractor, whether or not the building is to be constructed under the superintendence of an architect, where it is to be located, if it is of a design that will not go out of style, as certainly, unless the house can be resold at least for the price represented by the face value of the mortgage, there will not be sufficient security for him in it.

FINANCING COSTS MUST BE COUNTED

MONEY on first mortgages may be secured from savings banks, from insurance companies, and from mortgage brokers who commonly handle funds that have been left with them by their clients for investment. First mortgage money may also be obtained through building and loan associations.

In arranging for the loan, the drafting of the mortgage papers, and so on, a charge is usually made by the mortgagee. This is called a commission. It ranges from 1% to 4%, depending upon the amount of the loan, its relation to the total value of the property, and the length of time for which the mortgage is to run. The interest charges, which are entirely beside the commission, will also vary with the conditions mentioned above and will range from 5% to 7%. The first mortgage may be written to run any number of years, but commonly it does not run for more than five years, at the end of which time it will be necessary for the home owner either to pay off the mortgage or to re-finance it. If he refinances it, new commissions will be charged for the new paper.

There will also be charges to include the cost of filing and recording the transaction

as required by law. There will be the attorney's fees and those of the abstract office, all of which should be charged to the item known as financing.

When first mortgages run for more than three years they commonly carry a so-called "pay-off" clause, by which the home owner contracts to reduce the face of the mortgage after the lapse of three years and at six month intervals thereafter so that presumably the proportion of protection for the loan will remain at the end of the mortgage term about as it was at the beginning. In other words, the mortgage is reduced to take care of depreciation during the mortgage period. The building and loan scheme automatically takes care of this matter as the principal of the borrowed sum is reduced month by month.

BEWARE OF HIGH "DISCOUNTS"

WHEN so great a proportion of the whole value of the property must be borrowed that, after the maximum amount to be obtained under a first mortgage has been secured, there may still remain the necessity of borrowing additional money, then additional money may be secured on a second mortgage. This type of loan is sometimes called "junior paper." The security behind it, of course, is inferior to that of the first mortgage. If for any reason the home builder should default on the first mortgage, the person holding the second mortgage would have to be in a position to pay off the first mortgage in order to protect his interests. Otherwise, the second mortgage is in danger of being wiped out under foreclosure proceedings. Under the circumstances, the second mortgage usually carries a higher rate of interest than the first and in addition is made attractive to the money lender through the payment of a substantial commission or bonus. This commission often runs extremely high. It is rarely less than 10%, and may run much higher, the actual amount depending on how much money is borrowed and the length of time necessary to repay it, and also on the relation of the first mortgage to the value of the property. If less money is borrowed on the first mortgage the commission on the second mortgage would naturally be less.

First mortgages are sometimes succeeded by contracts for deed. As a matter of fact, there have been a great many houses financed exclusively by the contract for deed method. This scheme of financing goes by a variety of names, but it is essentially one by which the home owner makes a first installment of some size on the purchase of his home and then contracts to pay off the balance through equal monthly installments. The money paid down as first payment is often very low. Some people who finance houses on this score require that the home builder have at least the value of the lot in cash or the ownership of the lot itself. If the home builder owns the lot, then he

assigns his deed to the money lender as the first payment of the contract. When the contract is all paid up, the money lender supplies the deed to the property. Under some circumstances the money lender supplies the deed when a sufficient amount of money has been paid on the contract to make it possible to float a first mortgage.

As with all types of loans behind which the security is low, this type of financing is an expensive one to the home builder on account of the discounts or commissions that go with it. These discounts rarely appear as such in the transaction. They are simply added to the amount of the contract. It is quite common for these discounts to amount to as much as 20% of the value of the property. In this way, a house and lot costing \$5,000 would be sold to the home wantor on a contract for \$6,000. The 20% discount represents no real value whatever. It is simply the money lender's profit.

The contract for deed usually provides that in case the buyer fails to meet the obligation imposed upon him by the monthly payments or any other provisions included in the contract, the whole sum which may have been paid in at that time is taken by the money lender as "liquidated damages." Of course the contract may be written so as to provide for a resale of the contract so that in case the buyer should not have the means to go forward with his agreement he would be enabled to save some part of his equity.

This type of financing, it will be seen, is an extremely expensive one, and involves certain hazards which should be considered carefully before they are assumed. It is often made enticing to the home builder by being described as paying for a house "like rent." There are a great many people who will lend money for home financing on this basis. Building contractors usually know how to secure money in this way for the financing of homes for their more impecunious clients. If anyone goes into this scheme of financing he should do so with his eyes open.

MEASURED JUDGMENT

IT must be said in fairness that many of those agencies that supply money on second mortgages or contracts for deed are entirely dependable and honorable in their dealings with the people to whom they lend, but on the other hand, unfortunately, there are many who lend money in this way who have earned and deserved the term of "sharks." It is their desire and to their advantage to have the home builder default on his contract and they show no mercy if he does so. One may well beware of borrowing money from these people.

In almost every community there are agencies that recognize intelligent home financing as one of the most secure of all investment enterprises. The wise home builder will search these agencies out.

SECTION II.

BUNGALOWS OF MASONRY CONSTRUCTION

WALLS OF SOLID BRICK—BRICK VENEER—HOLLOW TILE

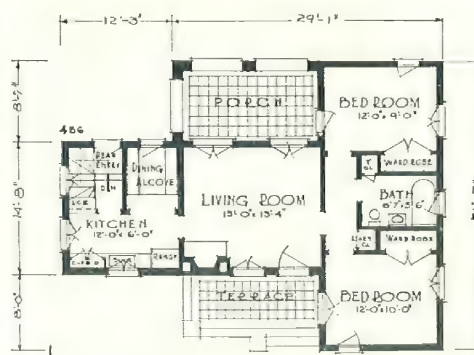


ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 4-B-6

BURNED CLAY FOR BEAUTY AND STRENGTH

MASONRY walls carry their own recommendation, for they have had the confidence of man through long ages. Their durability and strength is well known. Many a bit of ancient history is written into the walls of the buildings of antiquity. The great walls that the Chinese built stretching across the hills of northern China to keep the hordes of Tartars back bear mute evidence of how men have relied on the protection they afforded. Similar walls were built in England by the Romans as a protection against the barbarians of the north. Many ancient cities were protected by this sort of wall.

And many of these walls were of brick. Relics of ancient civilization in existence long before the Christian era, now being uncovered in Asia Minor, disclose walls built of brick which now are still in good condition. One of the most interesting of the objects excavated has been the library of Nebuchadnezzar, preserved now to us after a lapse of thousands of years. It consisted of hieroglyphics described on blocks of tile. The Romans built walls that were faced with triangular units of burned clay and filled in between with other masonry. They called the work *opus triangularum*—



STUCCO ON BRICK OR TILE

A pleasant plan, unusual in its arrangement, with a conveniently located alcove for dining. Terrace at front and porch at rear bring the outdoors in. To be built of hollow tile or brick with exterior finish of stucco.

triangular work. Many of these walls stand today showing clearly the skill and wisdom of their builders.

All of the virtues possessed by this old burned clay material are found in the present day product of our kilns, plus undoubt-

edly far greater durability that comes about from our having learned scientifically how to burn clay, and plus also color and texture characteristics of a superior order.

So we use these units for all sorts of wall building. There are walls of solid brick with facings of a more ornamental brick laid in interesting patterns with color, or we may finish such walls with stucco. Then we may have hollow walls of tile finished with a surfacing of stucco or made interesting in themselves by process of manufacture and therefore needing no additional surfacing. There is the wall made by applying brick to frame work of wood, called brick veneer construction.

There is really no essential difference between tile and brick as to the material itself. Both are burned clay. Building tile is hollow, that is practically the whole distinction, so far as units for ordinary wall building are concerned.

We may employ any of these materials for all sorts of wall building above and below ground—sometimes in the humble but honorable role of doing the work of the building, carrying loads, fighting off the elements, sometimes in the role of decoration, adding beauty, giving pleasure.



DESIGN 4-B-8

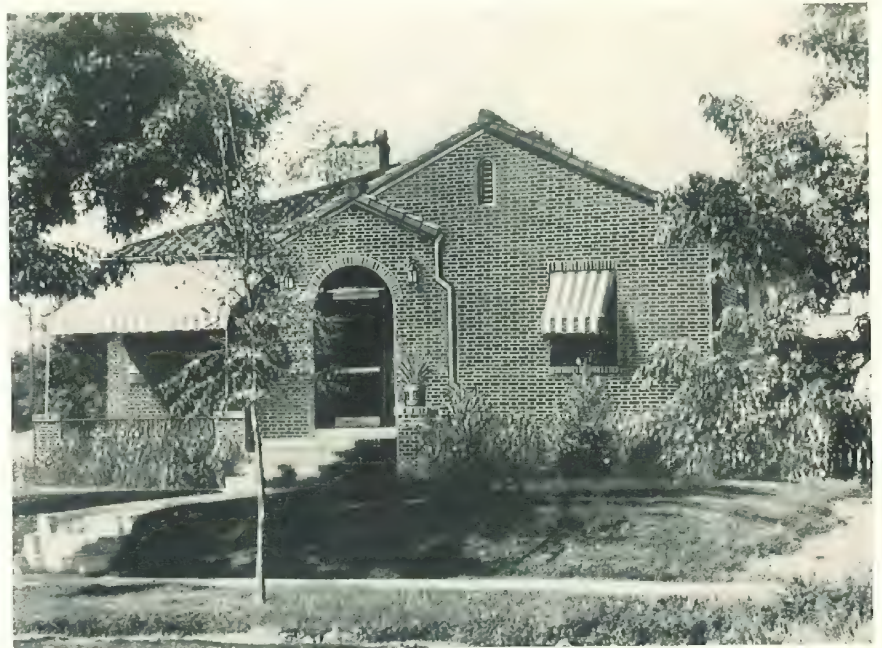
DESIGN 4-B-8, illustrated at the left, has tile walls with an exterior finish of stucco, while 4-B-18 below, is designed for solid brick. The home builder has a choice of two floor plans for either exterior. One of them has a formal dining room, the other a dining alcove. Otherwise the plans are much the same. The living room, dining room, and kitchen occupy a major portion of the house, the bedrooms, with bath between them, the other side, insuring privacy for the sleeping quarters. The absence of a porch provides a finely lighted living room. The dining alcove is in a secluded corner, close to the kitchen, and may overlook a garden. It has a window, built-in table and side seats, with china cupboards above.

STUCCO ON TILE OR WALLS OF SOLID BRICK

THE exterior of these designs are not elaborate. Simplicity is the key note. So highly refined are they and so well proportioned that their architectural merit is apparent to everyone. The arched entranceways, the main point of interest in the exterior, are embellished by buttresses and wrought iron lamps.

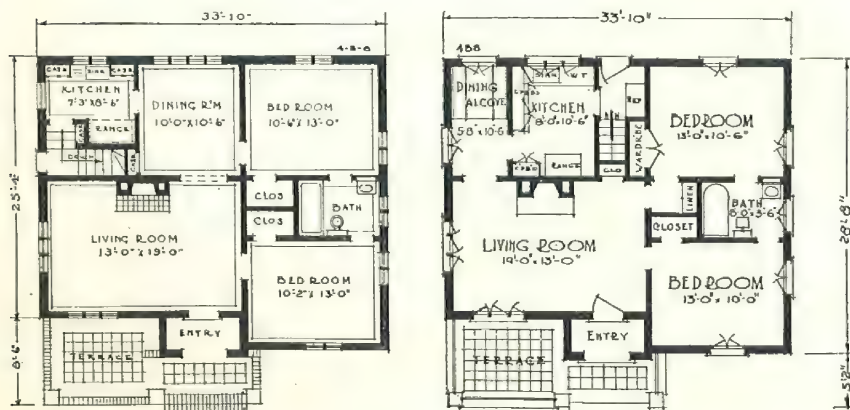
The stucco finish of the house above may be lightly tinted, perhaps in pink. In this case the tile roof may be of variegated colors in reds, browns and grays, and the exterior woodwork painted to produce the effect of weathered pine. The shutters may be light blue.

If the finish is of brick, as in the house at the right, it is suggested that they be of the red flashed type, laid in white mortar. If then the roof tile are moss green in color, and there is white woodwork with gray-green shutters, the color effect would be very fine.



DESIGN 4-B-18

The Home Builder Has a Choice of These Two Floor Plans for Either Exterior.



THE modern American bungalow is a model of efficiency. It shares many of the characteristics of the quarters of apartment houses, but with this notable distinction—it is light, bright, and airy, the rooms are generous in area and in windows. There are conveniences such as fireplaces, terraces, porches, attic and basement storage space such as apartments rarely have.

The apartment house dweller moving into a modern American bungalow finds his pleasures not only tremendously increased by the better plan, but by the setting of the house—lawns, gardens, all the joys of the home lot.

"BE IT EVER SO HUMBLE"

FOR most people the home is the beginning and the end of life. All their activities proceed from it and return to it. Therefore, of all the arts those which find their application in the home, making us intelligent about the home and its needs, are the most significant.

Yet there are thousands of families well able to finance a home, who are denying themselves this joy of living in a home of their own, who are missing year after year this feeling of security, of possession and independence that comes through ownership of a home.

There are many who do their building the same way that many of us travel, or grow rich and famous. We do it beside the fire in an easy chair. We dream dreams that never materialize because we never make a start.

A SPUR TO AMBITION

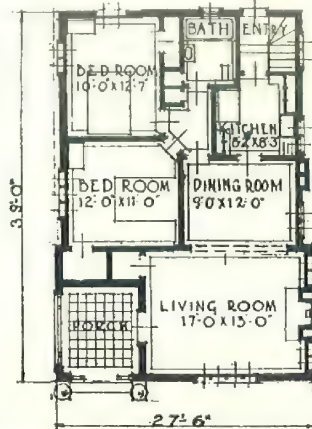
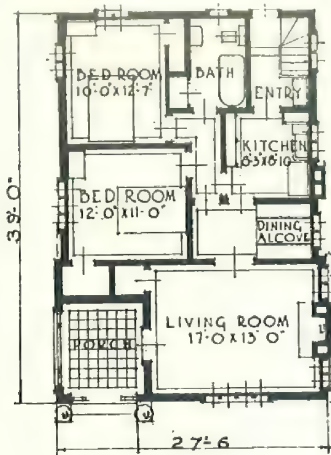
The average man with a small or moderate income does not usually begin to save until he has a definite object in view. What could be a greater goal than a home, a place to call your own, a place to develop and improve as you wish, a hospitable place in which to entertain your friends, a home that will bequeath associations and fragrant memories to your children?

The home is the most important of all institutions. From it are the issues of life. In the little world of the home children are born and reared. In it they grow to manhood and womanhood. From it they go forth into the larger world of society and state, to establish in turn their own little world of the home in which they grow old and die. Their memories linger around the homes of their childhood; the memories of them held by later generations are associated with the homes of their manhood and womanhood.

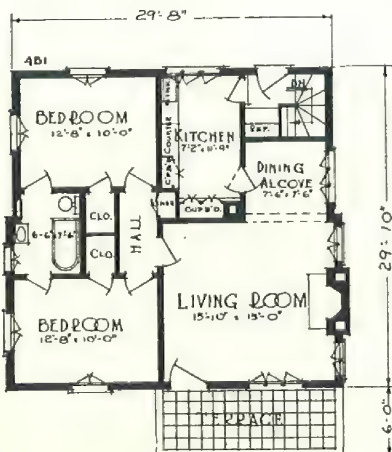


DESIGN 4-B-14

THERE are two floor plans for this design; one providing a dining alcove, the other a dining room. Construction: brick walls with face brick finish. Stucco may be applied over the brick as illustrated above.



As You Look Over the Plans in This Book, Remember That Any House Can Be Built Reversed.



DESIGN 4-B-1

THE overhanging cornice at the entrance with graceful bracket treatment, the old-fashioned blinds, and the finely proportioned chimney with its colorful inserts, give an irresistible charm to the exterior. The owner added the wing at the right. It is not in the working drawings.

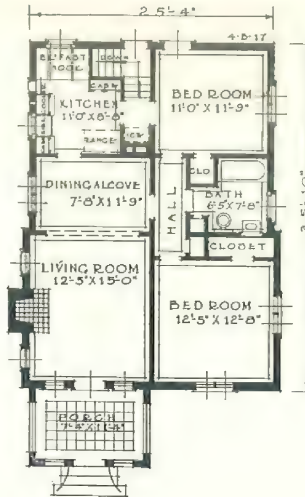
Construction: walls of hollow tile, stucco finish, roof of tile. Working drawings have also been prepared for solid brick walls, design 4-B-13. The hollow tile version, with a full size dining room, may be had in design 5-B-18.



DESIGN 4-B-17

THE exterior of this home has been made interesting through a happy use of materials. The combination of tile roof, stucco walls, wrought iron railing about the porch, and the brick work in the steps lend a cheerful note of color. Greater vivacity may be obtained through the use of rough textured stucco. Heavy wooden shutters complete the note of informality.

Construction: hollow tile with stucco finish, roof of tile. The drawings also provide for solid brick walls with a roof of shingles.



DESIGN 4-B-16

THE amount of space there is in a house is more important than the number of rooms. This fact is particularly evident in the home pictured above. It is classified as a four room house, but it contains practically all the accommodations that can be found in a house of five rooms. There are two bed rooms of excellent size. The living room and dining alcove are combined and so arranged that the living portion of the house is really one large room nearly twenty-seven feet in length. Finally there is a kitchen with a built-in breakfast nook.

ARE SHUTTERS WORTH THE ADDED EXPENSE?

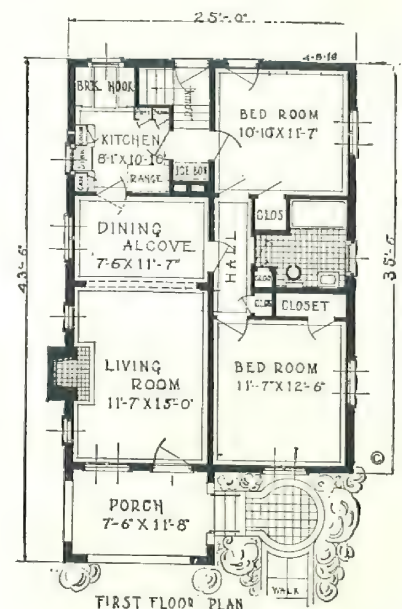
ARE you interested in the matter of shutters for your new home?

People often ask about the advisability of this device. Certainly if they are omitted there is a direct saving which may well amount to as much as \$100 for a small house. Like every other thing that goes into or onto a house, it is well to inquire whether shutters are worth what they cost.

How much service do shutters give? To tell the honest truth, shutters often give no service at all in any material sense, for sometimes they are nailed permanently to the walls. Even so they have a value as a means of enlivening the walls. Imagine any of the fine Colonial houses with which you are familiar without their shutters. Some of the distinctive qualities would be lacking.

Colonial architecture is necessarily severe. It is made interesting by carefully spaced walls and openings and by accurate details of simple woodwork. The shutter carries out the principle of simplicity, but lends life to the wall through its form or color. From this point of view alone it may be well worth what it costs.

But shutters may be something more than an ornament. They may be useful equipment. If you live in a region where the summers are hot (and where in America does not this apply?) a hinged shutter tightly closed in the summer time will keep out the direct rays of the sun and thus help to keep your house cool. Shutters are an architectural decoration plus a useful form of heat insulation. Perhaps this may help you to decide whether you will have them on your house.

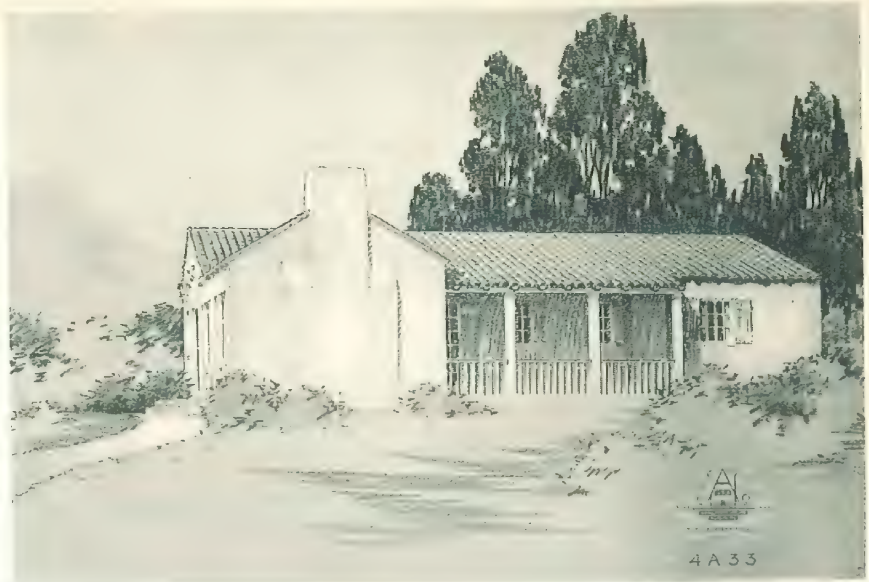
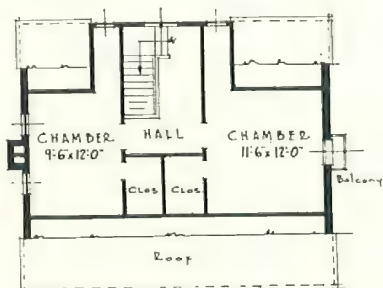
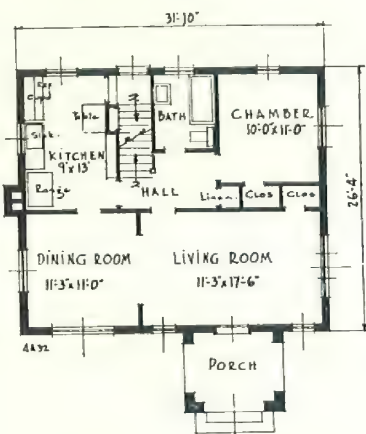
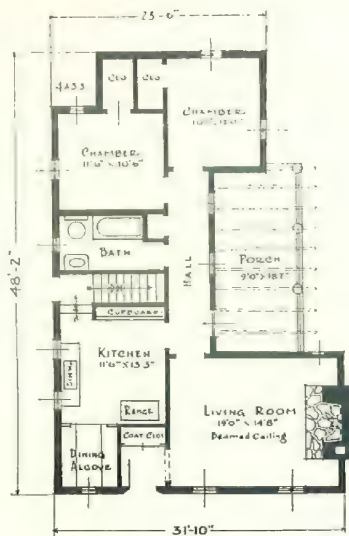


This bungalow is to be built of stucco on hollow tile or common brick walls. Basement walls are concrete. Roof of tiles.

RAMBLING RANCH HOUSE AND COMPACT CITY BUNGALOW

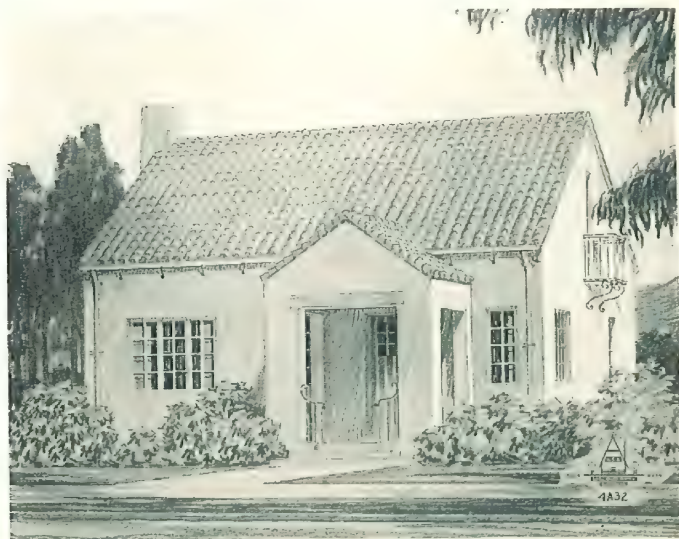
ONE of the peculiarities of this plan is that the house can be faced as you desire it. The front may be the porch, or it may be the side with the entrance. Certainly the facing will be determined very much by the lot, but certainly also it would be fine if the house could have a generous setting.

There is an entirely practical porch with a roof over it, thus making acknowledgment of the fact that even if it does not rain in California during the summer time, it does elsewhere. Rough logs are used for the ceiling beams of this porch. Construction: hollow tile, exterior finish of stucco.



DESIGN 4-A-33

HERE is an example of a distinct step in the architecture of small homes in America. While the majority of us have been struggling with the difficulties of Colonial and English architecture and others have perhaps more frankly expressed their thought about the proper character of a home by using the so-called "Western" style, out in the Southwest, especially in California, home builders have taken the architecture of the Spanish and have contrived an entirely new expression of a home. This has found so much favor in the minds of the small home builders all over the nation that the California bungalow has come very definitely into its own. To be sure, out in California, they would probably dispense with the porch and put in place of it a patio, and in the patio would be a little pool and fountain with aquatic plants and perhaps a cement frog.

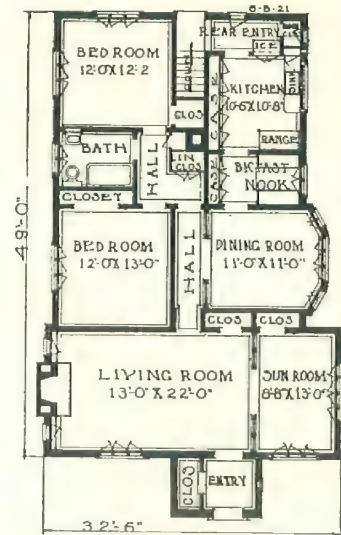


DESIGN 4-A-32

THE picturesque character of this house is heightened by the heavy beams used at the porch openings. This is one of a number of designs, illustrated throughout the book, which can grow. The second story may be finished later. Construction: hollow tile walls with exterior finish of stucco.



DESIGN 5-B-26



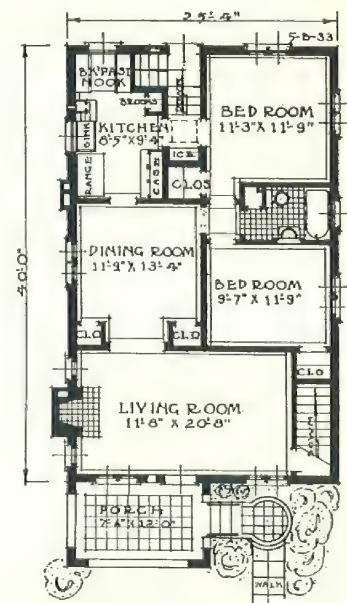
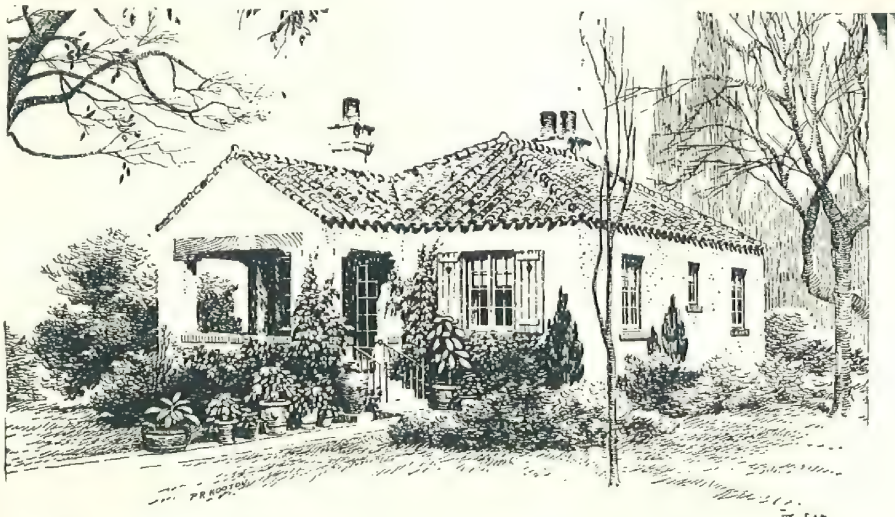
AN unusually liveable home of a type that has proved a favorite with many home builders is shown here. The exterior is quaint and the plan far superior to that of the average bungalow. Five rooms are included besides a breakfast nook and sunroom. A closet bed may be installed in the closet off the sun room.

The sleeping quarters are large and well lighted. Observe the large amount of closet space in the living room, closet for linen off the hall, closet for brooms also off the hall, closets for clothes in the bedrooms.

Construction: 5-B-26, illustrated above, solid brick walls, roof of shingles or tile. 5-B-21, illustrated at the right, hollow tile walls with stucco finish above the brick base course. Roof of tile or shingles. Both exteriors have the same floor plan.



DESIGN 5-B-21



DESIGN 5-B-33

THE exterior of this home is like that of design 4-B-16, illustrated on page 42, but the plans are different. The particular distinction is in the dining accommodations. There are other minor variations.

In the basement of this home there is a den reached by a flight of stairs from the living room. If the owner prefers to omit the den, the working drawings give details for alternate placement of the front porch, and for window seat and closet in the living room in place of the stairs leading to the basement.

Construction: hollow tile or solid brick, stucco finish, roof of tile or shingles.

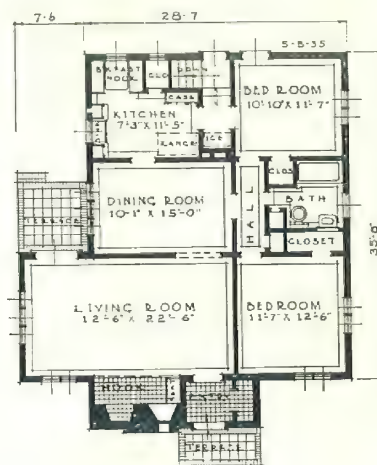
THE large living room is given a more spacious effect by the wide opening onto the terrace and into the dining room. The fireplace with its generous hearth is set back in a wide niche, a feature which also increases greatly the apparent size of the room.

Both plan and exterior express efficiency, orderliness, and love of beautiful surroundings. The floor plan is compact, convenient, comfortable.

Construction: solid brick or hollow tile finished with stucco, roof may be of shingles, tile, or slate.



BUNGALOW IN PICTURESQUE ENGLISH STYLE



DESIGN 5-B-35

THE brick chimney with its leaded glass window and quaintly modelled flues, the arched entrance and door with wrought iron hinges and ornamental grill, the brick rowlock trim under the eaves of the front gable, the brick quoins at the corners, all show how common materials may be combined in an unusual manner.

The wide expanse of casement windows on both sides of the living room, in the dining room, and in both bedrooms contribute greatly to the effectiveness of the exterior and the comfort of the plan.



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-B-28

FIVE SUNNY ROOMS OF GOOD SIZE

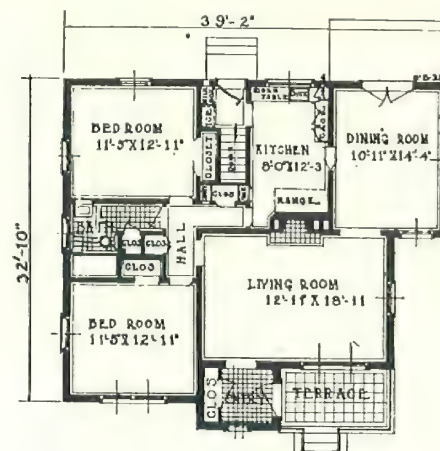
THE three bungalows shown on this page and the opposite are so nearly similar as to room arrangement that only one floor plan is shown for them all. The one shown above is different from the other two in that it provides a terrace and entrance to the vestibule is from this terrace. This is an excellent plan for the home builder interested in the California type of bungalow.

This same general plan will be found throughout the book with different exteriors and types of exterior wall construction. Note particularly design 5-E-1 on page 22. Although there are details about the plans which are quite different, the scheme of room arrangement is the same.

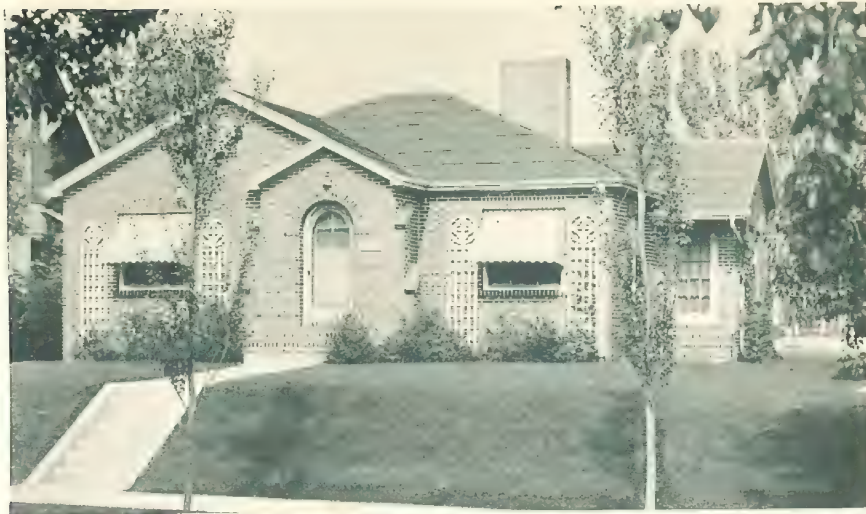
The owner of the home built from design 5-B-28, illustrated above, introduced a variation not called for by the working drawings by substituting an outside door from the dining room in place of the front window.

A suggested color scheme for design 5-B-28 is cream colored stucco in floated finish or dashed and rodded, sash and doors gray, sills of light brown brick, roof of variegated tile. The iron rail and awnings for the terrace add to the decorative effect.

Construction: 5-B-28 solid brick walls, stucco finish, roof of tile or shingles; 5-B-27 hollow tile walls, stucco finish, brick trimmings, roof of shingles or tile; 5-B-22 solid brick walls, roof of tile or shingles.



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-B-27



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-B-22

LEAKS IN WALLS, PIPES AND PURSES

How to Stop Them Before They Begin

YOU cannot easily withstand an uncontrolled leak in your pocketbook. Neither can you long endure a leaking house. If your house leaks, your pocketbook may be drained. That is the reason for this story.

Much of our home building effort is directed toward the prevention of leaks. Our walls must not leak heat, cold, wind or rain. Neither must our roofs—else maledictions on the roofer. The pipes that the plumber puts in should be so well installed that we shall never again be reminded of him. When the plumbing leaks, it violates our confidence, besides ruining the plaster. Then there are smoke leaks, spark leaks, leaky flues. What a hazardous place is our home after all!

GROW UP LIKE TOSPY

These wires strung around our walls may spill electricity, and if they do, how long before we call the fire department? What if our basement leaks? Then we may have to convert the wash tub into a sea-going tug and pole ourselves about the flood to get the dinner's supply of potatoes. The more one thinks of this the more tremendous these leak problems become. Let us stop them all with a little horse sense.

Perhaps not everyone can tell what causes a leak. But certainly anyone can find one after it starts. Sometimes they exist from the first—born when the house is built. Sometimes they grow up as the house wears down, a vicious brood, mothered by the slattern, Illegitimate Materials, or else by Dowdy Workmanship.

The first bulwark of the home is the wall. We can build it many ways. When we build walls we want openings in them for light and air, but we must be inconsiderate enough to require the carpenter and the mason to restrict the location of these to the more formal doors and windows. But even these openings will also let in the wintry blasts if they are not tight. The coal

man, if he cares to do it, can name every home in town that has poor walls and windows by the number of trips he has made to deliver coal. Wooden walls without insulation or masonry walls without air spaces of some kind *leak tons of coal* just as surely as though in liquid form we had poured them into the sewer.

The basement walls may not lose much heat, but they are often responsible for great loss of temper, especially so when cracks develop, water seeps in, and the basement looks as though it were time to call all hands to man the pumps. The wall cracked and leaked because the footings were not wide enough or the builder did not start them on sound and undisturbed soil; or perhaps we tried to save a few sacks of cement in a moment of misguided economy. Probably the best waterproofing compound is more cement. Certainly it is better to throw a few extra sacks of it into the wall than to suffer the consequences of a flood. When there is a real waterproofing problem, how much wiser it is to have this solved before we build than afterwards!

Midway in the construction of the home, the plumber, heater and gas fitter come along. They string pipes through the walls and floors, and afterwards the plasterer seals them in. We trust this piping will be faithful and silent, but do we know?

What makes plumbing leak? Poor piping will do it—poor jointing between these pipes. A quality job of piping means money. Every home builder is faced with the problem of whether he will pay ten per cent more for a good job when he builds his house or run the risk of a fifty per cent replacement and damage charge later on.

TEST BEFORE TOO LATE

It takes a skilful man to make a steam-tight joint in piping. A joint in water pipes is easier to make, but no matter what kind

of a piping system it is, have it inspected thoroughly, have the joints tested by putting pressure on them, before it is plastered in. Then you can seal them up. Don't forget them and then seal them up.

And these leaks that come from heating plants and ducts are unnecessary. The cheap furnace will soon leak, belch forth smoke and gas. The initial saving will be quickly dispatched in extra laundry bills, extra doctor bills, extra coal bills.

The flue is a prolific source of leaks. There should be exactly two holes in a flue and no more. The flue should be *lined with tile* from bottom to top. Think what happens when soot accumulates and takes fire. If there is an opening somewhere along the stack, where mortar has fallen out between bricks, what is to prevent the blazing soot from going through this opening rather than out the top of the chimney? Perhaps this casual opening is in the attic where there is the usual accumulation of materials that we do not quite have the courage to throw away. Fire starts and the home is ruined. Flue linings cost so little that they can hardly be found in the masonry bill.

SCIENCE VERSUS GUESSING

Leaking roofs? We cover the rafters with boards and over them lay almost every conceivable material, from paper to metal. There is rubber, asphalt, tar, felt, stone, steel, tin, copper, zinc, tile, wood, cement, asbestos and combinations of these. Obviously, they do not all have the same value first or last, but we can have a tight roof with almost any one of them if it is put on properly.

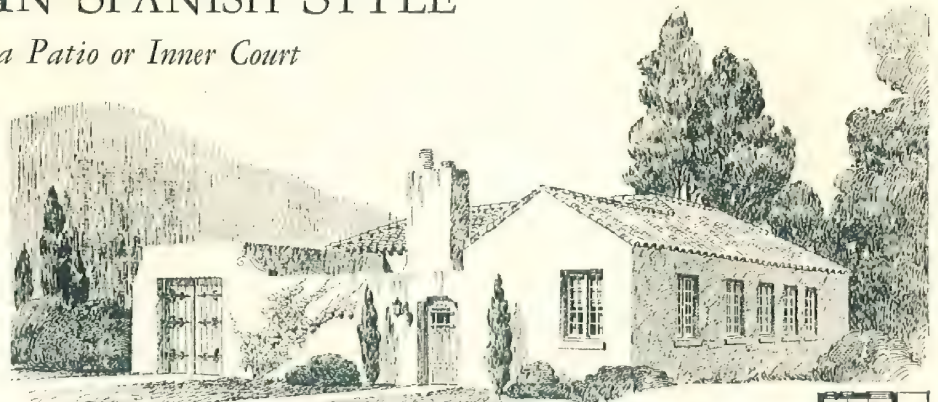
Let us stop our roof leaks before they happen by not taking a chance with questionable materials or poor workmanship. Buy roofing on the basis of reputation for service. The best way to prevent leaks is the common sense way—use good materials and good workmanship!

BUNGALOWS IN SPANISH STYLE

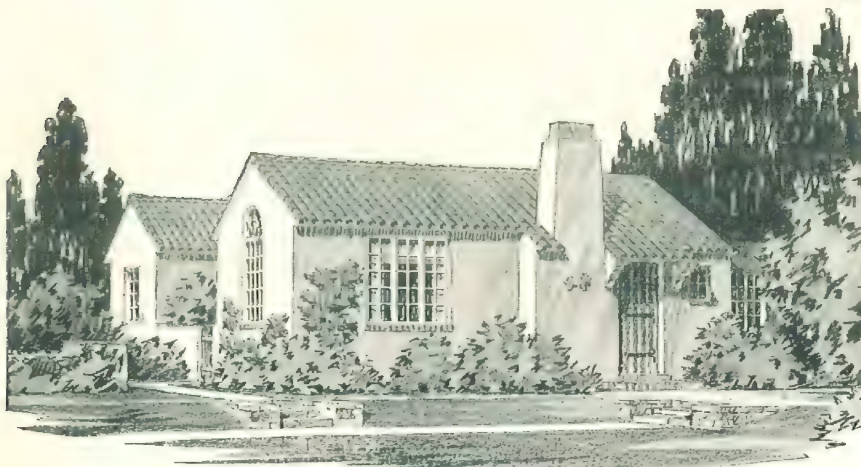
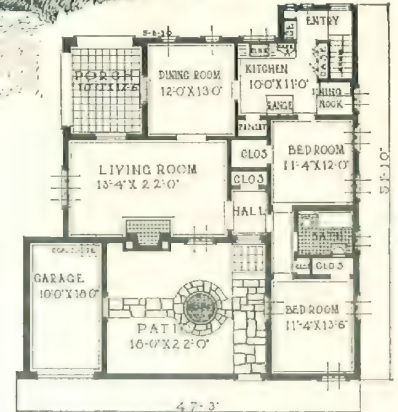
Built Around a Patio or Inner Court

THE plan below centers around the walled patio with its flagged walk and pool—a pleasant out of door sitting room amid flowers and shrubs—a delightful place for small children to play. The loggia, wide and cheery, may serve as a sunroom during the cooler months, as a breakfast room throughout the entire year.

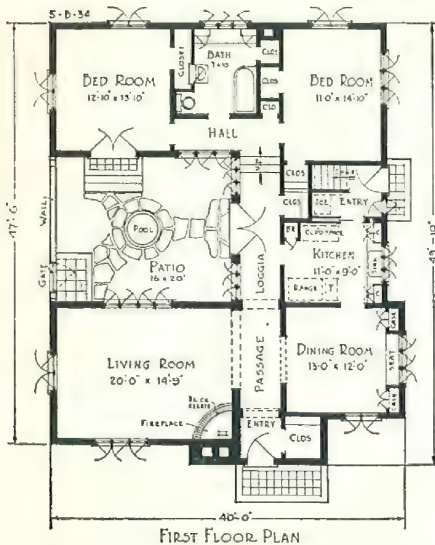
Construction: hollow tile, exterior finish stucco, roof of shingles. An alternate detail showing stucco over frame construction may be secured if desired.



DESIGN 5-B-30

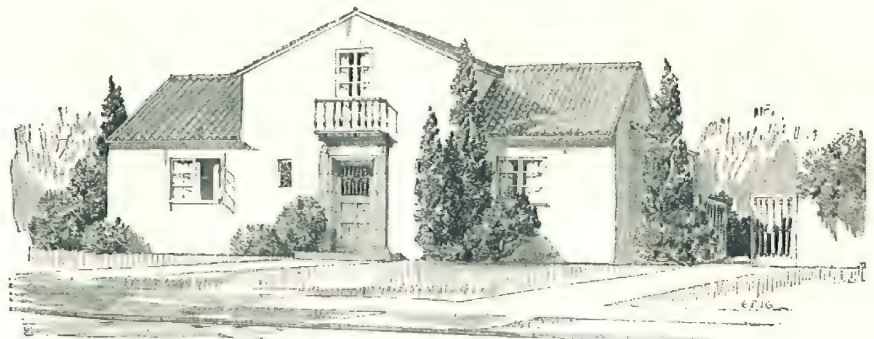


DESIGN 5-B-34

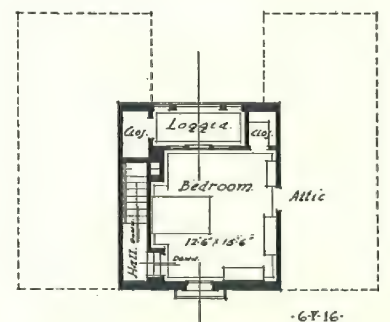
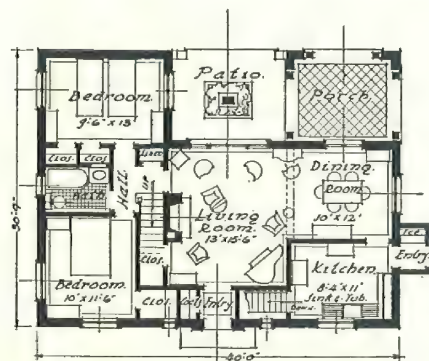


FIRST FLOOR PLAN

INSIDE and out, even to the small patio leading out from the living room, is felt the atmosphere of old Spain in design 6-F-16 at the right. Pebbled walks, bright flower pots, tiles are appropriate, while a linoleum floor of a tile design in the living room and a few pieces of Spanish furniture will add to the effectiveness of the design. Construction: hollow tile, exterior finish stucco, roof of tile.



DESIGN 6-F-16



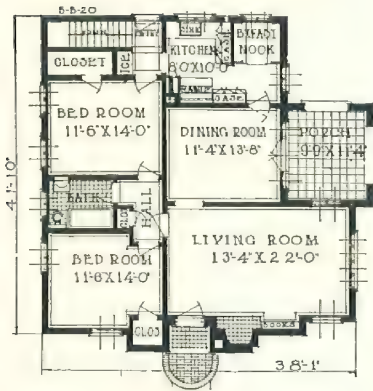
6-F-16



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-B-20

DIFFERENT—INTERESTING—WELL BALANCED

Can be Built in Stucco or Brick



AS IT LOOKS IN STUCCO

THE original working drawings call for solid brick walls with stucco finish, roof of tile. The owner of the house illustrated above faced the wall with interesting brick-work.

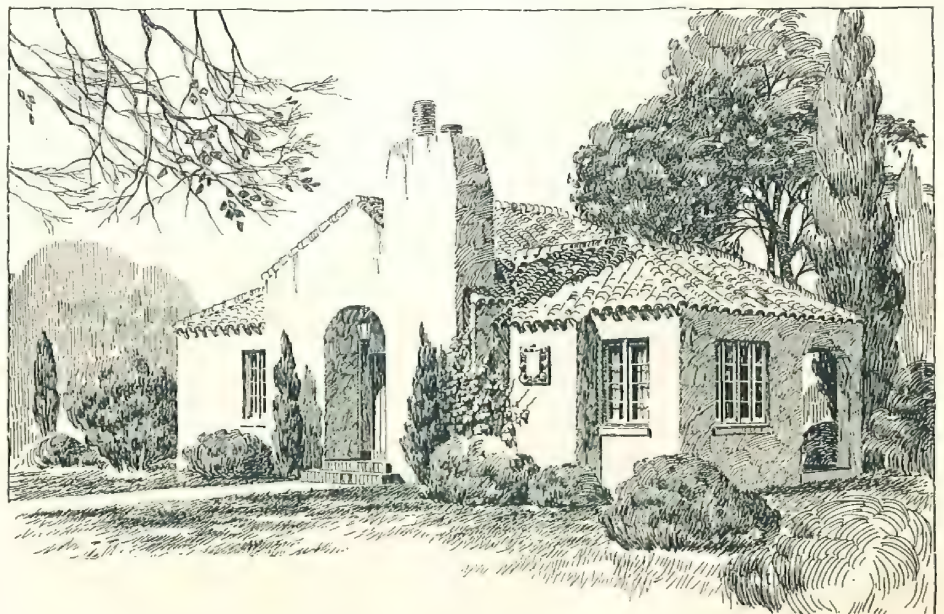
An extra sheet has been added to the working drawings giving a typical wall section for stucco over frame construction. The perspective at the side illustrates this house as it was originally designed for stucco. Whether the walls are of masonry or of wood, the effect would be about the same, though with the former deeper recesses could be obtained at the windows. A shingle roof might be substituted if necessary to reduce costs.

HERE is proof that a picturesque exterior and a splendidly effective plan are quite compatible. The design has the old world character, so much desired in recent years.

Seeing the informal massing and apparent irregularity of the exterior of this house one would hardly expect a plan of such a directness and order. Yet here is the utmost in simplicity, the effects of which will appear in economies in construction, and in household management.

The living quarters of the house are separated from the bedroom and bath quarters by a hallway, thus conforming to good practise in the designing of bungalows.

The porch, opening as it does off both living room and dining room, affords a splendid opportunity for extensive use. It will serve as a very pleasant dining place in summer. Glazed in it may be used as a sunporch. In the kitchen there is a convenient breakfast nook.





ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-B-6

WHAT YOU DON'T GET WITH A CHEAP HOUSE

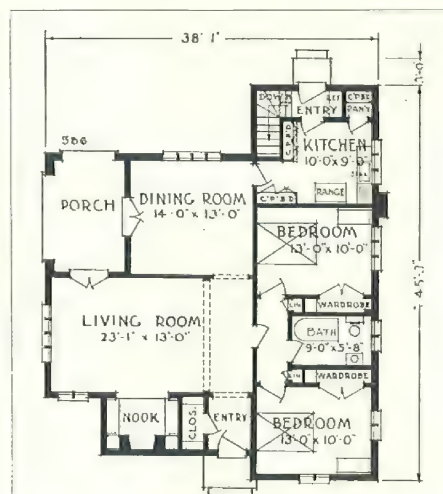
More Ways to Save On Spending and Lose On Building

LET us suppose you get four contractors to bid on the plans and specifications for your home. Three of them are high grade workmen with established reputations for honest building. The fourth is unknown save for having built quite recently a number of houses at surprisingly low cost. You open the bids. Three run close together. The fourth is off by itself—perhaps a thousand dollars below the others. What does it mean? Do the higher bids indicate that the profits of the contractors they represent will be a thousand dollars greater than the lowest bid, or do they indicate that these bidders are less efficient, less capable of getting the most for the money spent? Or is this thousand dollars difference to be taken out of the qualities named in your plans and specifications?

If this last is true you do not get what you should have, even though you pay \$1,000 less for it. The house you get at the lower sum is not worth its price. If the plans and specifications were drawn in the first place so as to eliminate guesswork about what was to be furnished then the thousand dollars subtracted means just so much taken out of durability, out of low cost of upkeep, out of real value. Here are some of the things you do not get at the cheap price.

First, you do not get good foundations. The sand or gravel is not clean or not enough cement is used. The footings are thin and rickety. Separate footings are not prepared for columns. Concrete bases are not devised for setting of wooden posts.

What happens? The walls crack or crumble. The base of the wooden posts rot.



TILE ROOFED

The owner of this house enclosed the open porch. He placed two windows in the front wall of the front bedroom instead of one, and used double hung windows instead of casements. Otherwise the drawings were followed quite accurately.

The building settles. Everything above ground comes down.

Second, you do not get good walls. If they are of wood, the braces and bridging are omitted—if of masonry, the mortar is weak, brick courses are crooked, bricks not fully bedded. Siding used to finish the walls is thin—inferior wood is used. Adequate insulation is omitted or if used is not tightly sealed. Sheathing paper is not flashed around the openings. Joints between

courses of paper are not made wind and rain proof. Two nails are used where four should go.

Then the walls get out of plumb—plaster cracks, mortar washes out. The brick work looks "drunk and disorderly." The siding cracks. Walls collect moisture and heat is lost. You fire the furnace more often. Your house gets old and cold before its time.

Third, you do not get good beams or joists. Bracing and bridging is omitted. Inferior grades of lumber are used—sizes are reduced. The subfloors are not run diagonally. Doubled joists are not run around chimney stacks and stair wells or under partitions.

Without good supports the floors must sag and creak. Plaster will crack. If your contractor uses 2x8's in place of 2x10's for the second story floor joists you cannot find the difference in the lumber bill, but you can find it in the cracked ceilings. Light pieces to support heavy loads cannot be seen when nicely painted over. But they show up later on.

Fourth, you do not get good plaster. The lath are not spaced properly for plaster keys. Lower grades of lath are employed. There are no metal reinforcements at angles and in corners. Then the plaster is too thin. It is not pressed into the lath spaces. It is not finished straight and true. Tool marks show. The edges of the plaster show around the casings.

Common plastering is not a fine art, but fine plastering is not common. If you get a cheap job it will crack, bulge, come loose, fall off. Poor lath stain plaster. Where the reinforcement is omitted there will be a



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-B-31

crack. Rough places in the plaster will always show.

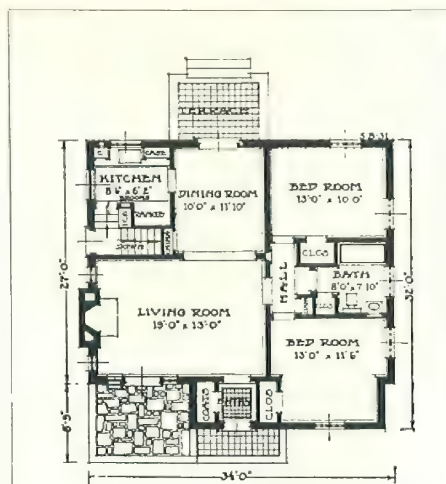
Fifth, you do not get good roofing. Thin flat sawed wood shingles are substituted for the thick edge grain quality specified, or lightweight felt and asphalt composition shingles displace the heavier weights of this type of roofing. Metal flashings are not turned under the siding or into brick work. Drain troughs are of lighter metal not pitched to drain.

Then the shingles curl, let water down, or catch fire brands and your house burns up, or the metal rusts out, the roof leaks.

Sixth, you do not get good painting, or paint is put on too quickly or in coats that are too thick. Substitutes are employed. The paint film itself is of poor quality, not brushed into the wood. Nail holes are not puttied up. Sanding between coats is omitted. You can tell a cheap job every time. The paint film crazes, chips, and falls off, collects soot and dust too quickly; knot holes show through.

Seventh, you do not get good millwork. The wood finish is rough and splintery. Pieces that should be locked together are only nailed. Hammer marks show. Doors and drawers do not fit. Stairways are put together with nails instead of wedges and glue. Floor boards are not driven up close together. The floor is not sanded smooth. Woodwork is not thoroughly kiln dried. Pieces to be stained are not selected for grain and color.

There is as much difference between grades of millwork as there is between automobiles. Your cheap contractor buys his where it costs the least. Of course it is splintery, drawers do not pull readily, the stair squeaks, cracks appear between the



TILE USED FREELY

Tile is used freely throughout this house. The roof is covered with tiles in variegated reds and tans, window sills are of red shingle tile. Large red quarry tile ornament the vestibule floor. Tile in dull red tones form the hearth of the fireplace.

flooring strips. The wood in the "cabinet work" shrinks and falls apart. Doors peel off.

Eighth, you do not get good plumbing. Joints are not caulked tightly. The piping itself is too thin. Pipes are not properly pitched to drain. The enamel finish on the fixtures is rough and uneven. The frame work of the house is cut for pipes without regard for consequences.

Then look for leaks and ruined decorations. Be prepared to call in the plumber to rod out stopped piping, to worry over fixtures you thought were to be the best. The hacked out joints may fail.

Ninth, you do not get good heating. The furnace is not set properly. Joints are not made gas tight. The pipes are not insulated. Pipes are not pitched to drain, are too small. Light weight metal is used.

It may look like the finest job, but it leaks gas and smoke, ruins your draperies, takes more coal to heat. Or the radiators knock—do not heat quickly.

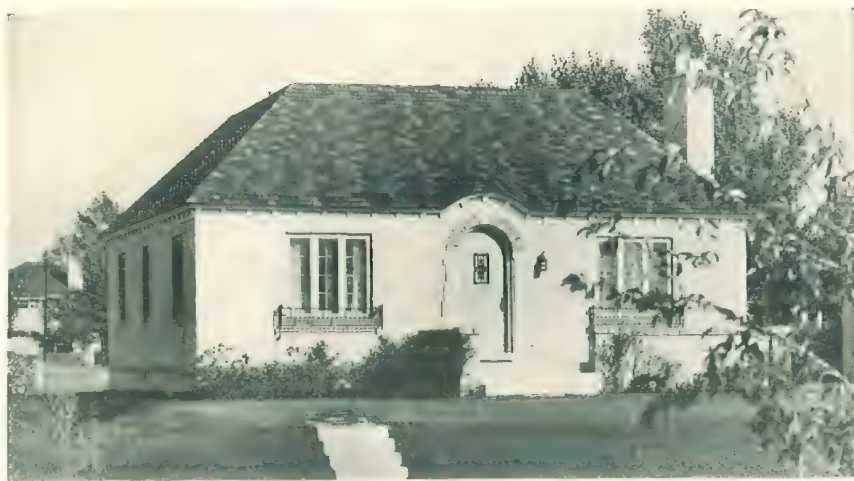
These are only a few of the things you do not get. As you read them over no doubt you will see that they are principally matters of workmanship, though in some cases inferior materials are substituted. Unless you are a technically trained man and know materials and workmanship, or have someone on the job to represent you who does know these things, the cheap contractor can do his worst without your being aware of it. The lowest bidder may be the most expensive one.

Checking back then on the bids received, it can be seen that the man who offered to build your house for a thousand dollars less than the others was not more efficient, had no better opportunity to buy his materials at lower costs, and had probably not figured to take any less profit on the building of your home. He got the job by undercutting the price with the intention of getting out by beating the game a little everywhere.

There are thousands of such houses in every city. Their upkeep is enormous. You spend your home building money but once in your life. Do not waste it.

DISTINCTION FROM A FEW WELL DESIGNED FEATURES

Rough Texture Stucco Widely Used—Should Be in Quiet, Good Taste, Not "Arty"

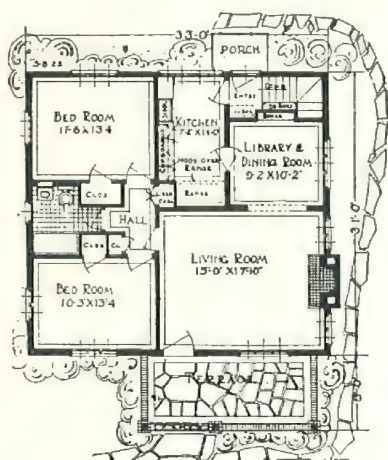


DESIGN 5-B-25



The arched recess in the dining room may be used for hook shelves or serving table.

TEXTURE in stuccoed surfaces has attained great favor in recent years. By the use of it a play of light and shade is given stucco planes rendering them far more interesting than the older smooth surfaces. These textures should be attuned with the architecture—not overdone. Most of the "arty" effects grow tiresome. The use of color with roughened surfaces has also helped to bring a life and vivacity to our small house architecture.



The exterior of this design gains distinction from a few unusual features—the doorway, flagged walks, terrace floor, wrought iron grills, rough textured stucco, and variegated shingle roof.



THE living room fireplace built of brick and stone is pleasing because of its very simplicity. Living and dining room walls plastered with sand finish; bed rooms and hall painted a stippled effect. All rooms excepting bath and kitchen painted light sand color with woodwork dull finish enamel, which produces a deeper color note than walls.

The kitchen is well lighted by four casement windows. The hooded recess for the stove connects with ventilator in the roof. There is generous kitchen cupboard space. Construction of this house is as follows: tile walls, stucco finish, roof of shingles. Basement is partially excavated—may be more if desired.



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 5-B-23

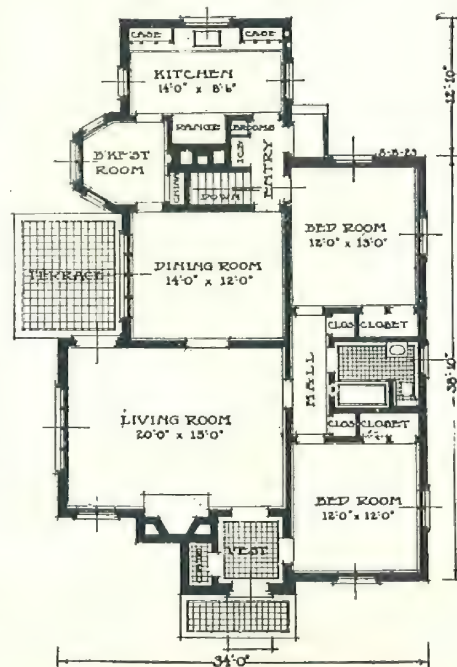
WHY SPECIFICATIONS PROTECT THE HOME BUILDER

SPECIFICATIONS are a written agreement between you and your contractor. They state in specific terms how the contractor is to build your house, the kinds of materials he is to use, and the quality of workmanship he is to supply. They tell him just what he is to do, and therefore make clear to him what his expense will be. In brief, specifications take the guess-work out of home building.

Specifications are used in home building to supplement working drawings, to take up the building operation where the plans leave off. It is impossible to describe in detail every operation of home building upon a set of working drawings. The plans give dimensions, sizes, the arrangement of all the parts, but they cannot describe the quality and grades of materials, the methods of installation, all the types, kinds, and sizes of equipment.

The specifications are in two parts generally. One is called "The General Conditions." The other might be called "The Specific Conditions," though it has not been given this name. The first part includes such items as the foreman, supervision of the work, the protection of the work and property, various forms of insurance, etc. Imagine building a house without an understanding with the contractor on these many scores. Who is responsible if someone is hurt? How will matters be adjusted if the house burns down while in process of building? Suppose the neighbor's terrace caves in. What will be done if the sidewalk or curb is damaged?

How will mechanic's liens be handled?



LOW, RAMBLING EFFECT

The low rambling effect of this house gives a feeling of largeness, yet it is not large. Observe the kitchen with windows on three sides and the breakfast alcove. There is a fireplace in the living room and spacious wardrobe closets in the bedrooms. Construction: Walls of solid brick or hollow tile, stucco exterior, brick trim, roof of shingles, slate or tile.

Suppose there is a fundamental disagreement between you and your contractor. Who will settle your differences? There is a standard form which deals with this particular group of subjects, which, as stated before, is known as "The General Conditions of the Contract." It has been prepared by The American Institute of Architects and may be obtained from any stationer.

After "The General Conditions of the Contract" come the subjects which deal with the way in which materials and workmanship should be applied. They state what the mixture of concrete shall be, how much shall be paid for brick, the grade of the lumber, the quality of the flooring, the number of coats in the plaster. Suppose you have only a verbal understanding with your contractor that he is to supply oak floors. Do you know what you would get? Oak flooring is made in five different grades—more if you count the quarter-sawn varieties. All are sound, but one of them is suitable for a factory and another for a palace. Which would be supplied?

These things cannot be left to guess or accident, and it is not fair to leave them to the faithfulness of the contractor. No matter how good a man he may be, it is not just to expect him to supply a fine grade of all materials unless a corresponding price is paid for them. When these grades are fixed by specifications, he knows what he must supply and therefore how to estimate costs, and you have a right to require delivery of what you agreed to pay for. It is clear, clean, orderly, businesslike.

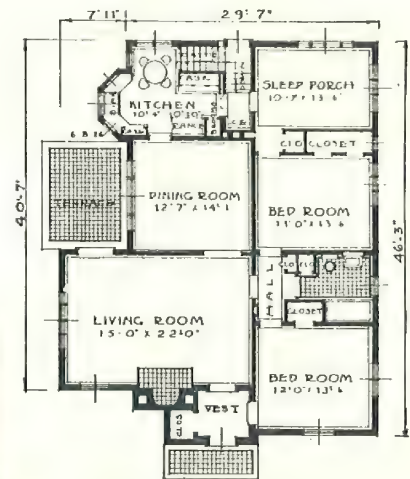


LOW, RAMBLING, BUT WELL ORGANIZED

NOT every house that aspires to an English character reaches its aspirations, but this house does have an English quality of a most distinctive sort. It is a type of architecture which has remained in style for centuries. It is not the product of passing fancies. The low rambling effect of this bungalow exaggerates its real size. In reality it is a small house.

There are six rooms, although one of the bedrooms is called a sleeping porch. By special treatment of window openings in this room a real out-of-door sleeping apartment may be obtained. A large fireplace in the living room adds qualities that make home enjoyable. Observe also plans on pages 33 and 53.

Construction: Solid brick finished in stucco with brick trimmings, or full brick walls if preferred. Roof can be treated with shingles, slate or tile.



DESIGN 6-B-26



The English house is a growing house—that is, it extends into bays and angles as the years pass to meet the requirements of families who live in it. The effect of these extensions taken as a whole has a rather picturesque and informal quality. That is one of the outstanding differences in appearances between the English cottage and our own Colonial architecture. A side view shows the terrace with awning and screened porch for summer use.



ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-A-62

HOW TO BUILD YOUR HOME FOR LESS

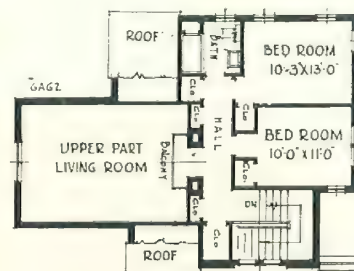
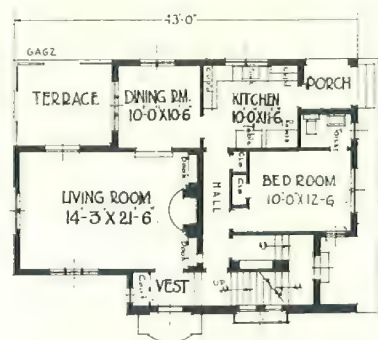
Study, More Study, Still More Study

SOMETIMES our home builders find that the bids offered for the building of their hoped for new homes run too high. By investigating these cases we learn that there are two principal causes. The first is the difficulty of picking out the right contractor. The second is the difficulty of making suitable changes in the plans and specifications to reduce costs.

The answer to both these questions is the same. Study your problem. It takes time, but this time is worth money to you, and you are justified in putting a lot of it in your home—the only home that you will probably ever build.

Investigate contractors. Find one who has a reputation for honest building and whose prices through efficient management are low. It may take a little time to find this man, but there is almost certainly such a person in your community. Look for him. Do not sign up with the first man you deal with. Get others to figure. Give them all consideration and then use your best judgment. But choose on the basis of quality every time.

As to reducing the cost of the house itself, we can only repeat, "Study." Study the plans and specifications. If you were contracting to buy a washing machine or a phonograph or an automobile, you would read the contract form from first to last. You would know every word in it and probably know it by heart by the time you



CALIFORNIAN MANNER

This home has a high living room with lofty beamed ceiling and exposed rafters. It is two steps lower than the other rooms of the first story. Above the fireplace is a wrought iron balcony. Construction: Exterior walls of hollow tile, finished with stucco, tile roof.

had signed it. The contract documents that you sign when you build your home are the plans and specifications. Read them. Know everything that goes into them.

Our plans and specifications have been prepared to suit the largest number of people under average circumstances. Study them over carefully to see that they contain everything that you want to have. See what they call for that you do not desire. If there is an excess of millwork, too elaborate heating or plumbing systems, omit or substitute for these features. You can reduce the cost of almost any five or six room house at least 20% by eliminating extra items. Study them with your millman, with your plumber, with your heating contractor.

Sit down with your general contractor, or far better with your architect, and see what he can offer in the way of sound substitutions that will not change the architecture or substantial quality of the building.

There is no justification for the millman to figure your plans for "special millwork" just because he does not happen to stock what is commonly carried and called for. Through agreement with you he should make substitutions of the stock he does carry. Here is a way for you to keep costs down. But in order to do so you must be entirely familiar with the plans. Read them. Mark them. Be sure you understand them from first to last.



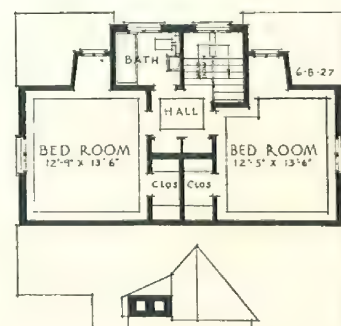
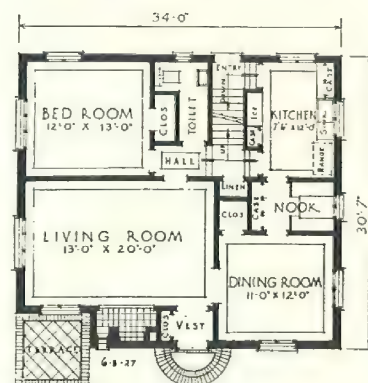
ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-B-27

WOOD, BRICK, STONE CHANGED INTO BEAUTY

WHAT sort of result issues from the architect's alchemy? He mixes together walls, roofs, windows, chimney stacks on his paper crucible. From it must come order, direction, beauty. Anyone can mix up these elements, but only an architect can make the proportions such that lasting beauty remains. The more skillful he is the more beauty he gets.

In the home illustrated above is an expression of the alchemy of architecture by which gross materials of wood, brick and stone have been transmuted into pure beauty—in a word, into architecture. See how well the plan elements are disposed, how direct the communication, how clearly the architect has visualized the special uses of each of the rooms.

Construction: Hollow tile walls, exterior finish stucco, brick trim, roof of tile. The casement window frames may be of frame or metal.





ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-A-93

WHAT AN ARCHITECT THINKS OF BRICK

*"How happy could I be with either,
Were t'other dear Charmer away."*

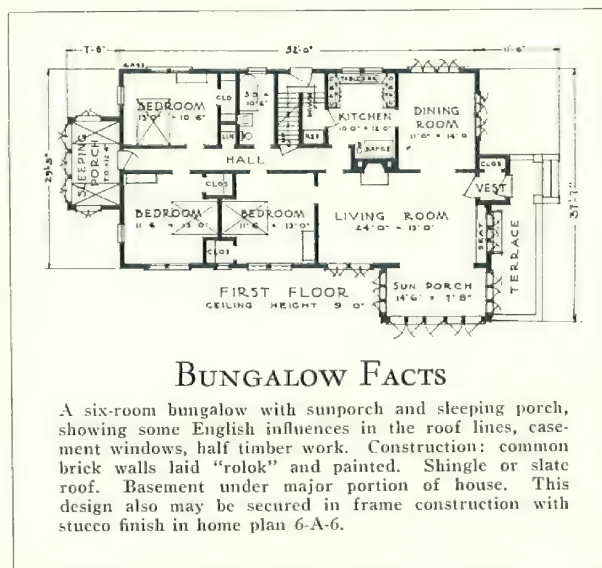
THESE lines from an old song exactly express the case of the architect when asked to tell why he likes any certain kind of building material. Enthusiasm expressed for one does not necessarily mean a lack of enthusiasm for another. He can easily content himself with whichever of the several "charmers" fate may wish on him, knowing that the resources of each, though different, are sufficient unto themselves.

Supposing the "charmer" of the moment to be brick, what then are his reactions?

In the first place, the architect has the comfortable feeling in using brick that he is not being extravagant. Even the more expensive bricks are relatively cheap in the end, considering their durability. And there is the further consideration that some of the cheaper varieties are very effective. Witness, for instance, the dramatic picturesqueness of "skintled brickwork" as lately devised by Chicago architects.

There is further satisfaction in the indubitably proven fact that brick is practically indestructible. For actual resistance to weather and fire nothing has yet been devised to surpass it. Centuries of exposure serve only to enhance its beauty. Brick is now being dug out of cities that existed more than 5,000 years ago, and the brick is still good.

But undoubtedly the greatest appeal of brick to the architect lies in the possibilities it offers for decorative effect. These



particular possibilities belong peculiarly to brick; no other material offers anything quite like them; and few materials offer anywhere near the variety of effect possible with such simple means.

Analyzed, these possibilities result chiefly from color and texture, qualities inherent in the material itself. To them should be added the imposed quality of pattern. Those imposed qualities of form and proportion so essential to stone and wood are of relatively small importance in brick. There cannot be got with brick the same kind of beauty that can be got with stone or wood: there must be sought only that kind it is capable of giving. But inside its capacities what a wealth of beauty lies!

Different clays, burned in different ways, give an infinite variety of colors. Different surface treatments, different joint sections, give

the flecks of light and shade that make texture. The uniformly sized blocks, laid in different geometrical combinations, give almost any kind of pattern that ingenuity can devise.

Designing with brick is like playing with hundreds of little islands of glowing color, set in rivers of contrasting mortar, woven into subtly sensed patterns, and all textured with little points of light and shadow.

And if visible justification is needed for the architect to enthruse over this sort of play, there exist, among countless other examples, the patterned walls of Italian churches centuries old, the plum-colored facades of English colleges, and the mellow-walled houses of our own Colonial days.



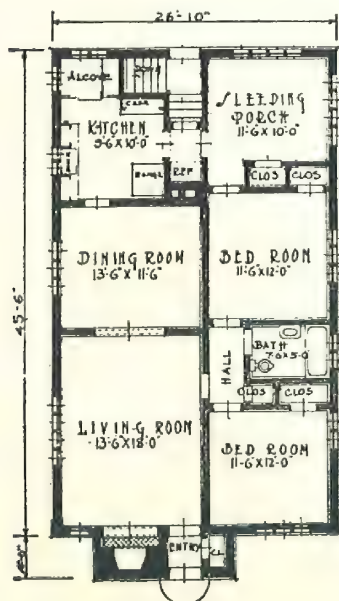
ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-B-16

A COMMON PLAN, BUT AN UNCOMMON DESIGN

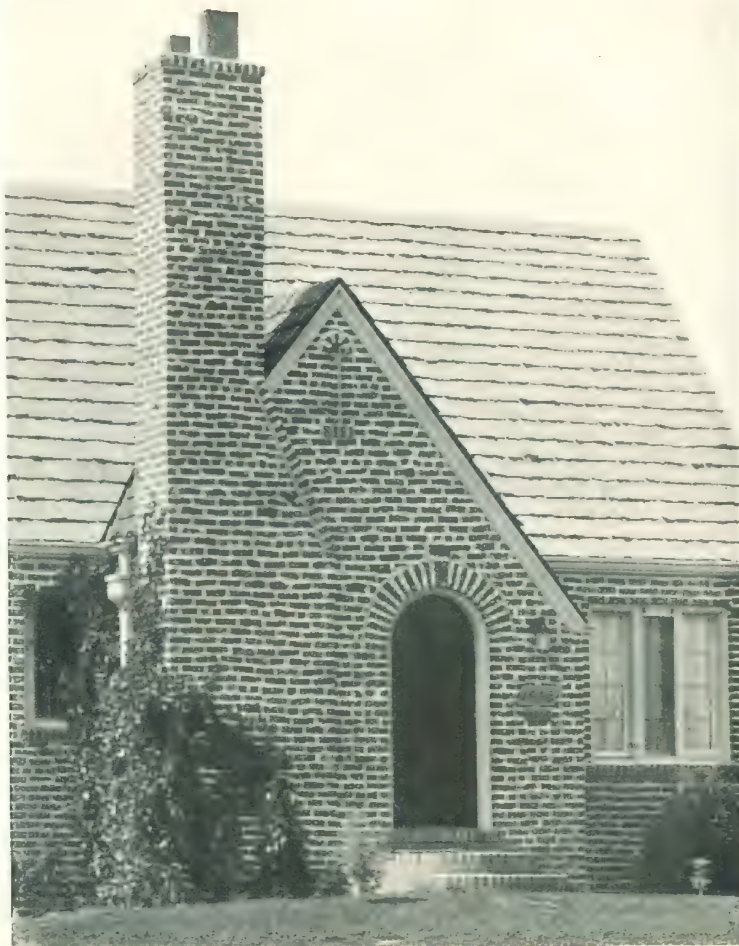
BRICKS are here laid without gauge lines. The roofing of shakes is in keeping with the brickwork. There is an uneven yet harmonious texture and quite unusual appearance due to this treatment.

The house on the opposite page was built from the same drawings but finished in stucco. Homes built from this strictly rectangular type of plan are frequently commonplace. These homes, however, because of the high pitched roof, good proportion, careful working out of small details are distinctive, and will hold their own.

Construction: The original drawings call for hollow tile, stucco exterior, brick veneer to first floor window sills, roof of tile. Solid brick walls may be used as shown above.



The illustration at the right shows how successful this house can be when built with common brick in solid walls and laid in staggered pattern. If you think of brick of even size laid in straight courses with mortar joints all alike, you may see here what fine effects may be obtained by disregarding tradition. Remember that it takes a master to break the rules successfully.





ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-B-16

DON'T CHANGE THE DRAWINGS

DESIGN a state capitol, and if a few little things are off—not as fine as they should be—not much damage is done. The building as a whole is on such an immense scale that if the architecture in general is good we can forgive an occasional error in minor things. But this is not true in small houses. The architecture of a small house is so intimate, so close to the eye, and for that reason grasped so completely in all its detail, that what would be a small error in a state capitol, almost impossible to find, becomes of major consequence in a home. Certainly each one of the five or six windows in the front wall of a small home is more important to the design than one of a hundred in a state capitol. So it is with the moldings and cornice, the overhang of the roof, the doorway, the way the porch comes on. Unless the architect can control these things, especially in a small house, architecture is likely to go flying away.

ROUGH SKETCHES UNSAFE

Yet it is truly remarkable how often the architect's carefully drawn designs are changed or thoughtlessly set aside by home builders, who, if they realized how disastrous these changes might be to their homes, would no doubt be as vigorous in seeing that they were not perpetrated as the most conscientious architect.

Too often we see houses which have just missed being beautiful because of a misguided enthusiasm on the part of the owner to have on his home something that he has seen and admired on someone else's home.

Changes in design not carefully studied in relation to the house as a whole, are rarely successful, even from the home builder's point of view. The rough sketches made by contractors for changes of this kind are necessarily only approximate, do not have the balance and proportions, the breadth of good taste of drawings made by the men who designed the home in the first place and who have devoted their lives to an attainment of competence in creating architectural forms.

BEAUTY THAT SATISFIES

After studying the houses in this book do you not agree that the architect is an extremely important influence in their success? All the refinements of plan and exterior have come about through careful study. The forms of the different parts are determined by their relationship to each other. Not every house can have a wide projecting cornice or bay window or covered stoop at the doorway because other things about the design simply may not carry these forms. Balance might be lost if they were added. All depends on the particular design.

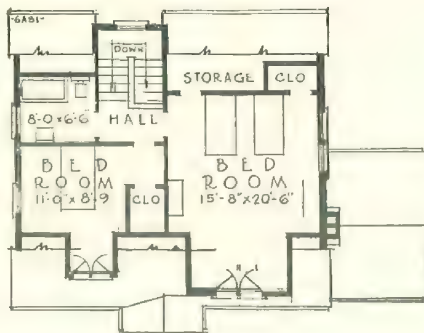
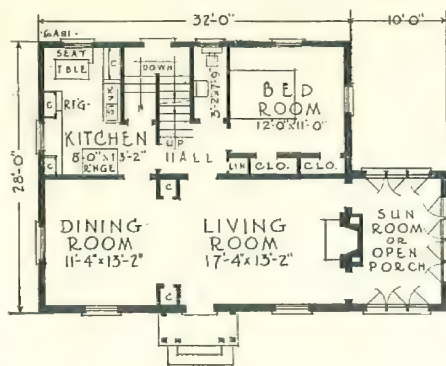
An architect invariably strives for perfection. He thinks of his profession as one of the fine arts and not as mere building. If beauty is not achieved—a beauty that completely satisfies the eye and mind,—if the forms, masses, and details are not managed to accomplish this end, then architecture is missing. The edifice is a building, not architecture. It is not the little

things that make architecture, but architecture may be lost on account of little things. Remember that fine small house architecture does not come by guess or by accident.

We are trying to show home builders how, by attention to those many details which seem so minor, their homes may have beauty, permanence, and comfort, which is well worth the slight increased expense involved, if any, and the time and energy necessary to carry them out. No doubt the most direct way to achieve this result is for the home builder to insist that the architect's drawings be followed with absolute faithfulness. The architect is best equipped by training and experience to determine the forms the parts should have. The contractor or builder has eminent talents for the management of building. The functions of the architect and contractor should not interfere.

ASK YOUR ARCHITECT

We by no means wish to give the impression that the entrances, or cornices, or windows shown on the plans illustrated in this book are the only ones possible for these designs. That would be far from the truth. If the owner does not care for certain features he is perfectly justified in saying so and asking his architect to design something different. What we wish to stress is that the architect is the man to rely on for revisions in drawings, just as he is relied on for the original drawings, the general construction, and all the other details that make a house beautiful and give it distinction. Ask your architect. He knows.



DESIGN 6-A-82

IN many families it is necessary to have a first floor bedroom and lavatory, but it is not always possible for these rooms to be so advantageously placed as in this house. Like most modern kitchens, this one is well lined with built-in cupboards, and one sunny corner is arranged for a breakfast nook.

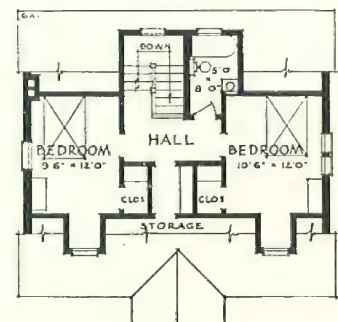
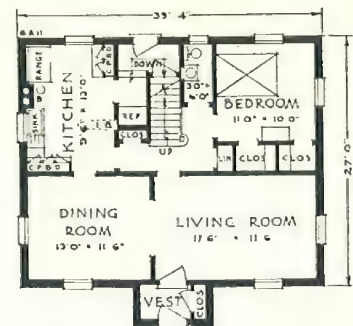
The wide cased opening separating living and dining rooms is always a popular arrangement. It increases the sunny, spacious effect of the first floor.

The construction of this house, like the one below, is brick veneer on wood frame with roof of shingles.

TWO SIX-ROOM HOMES OF BRICK VENEER

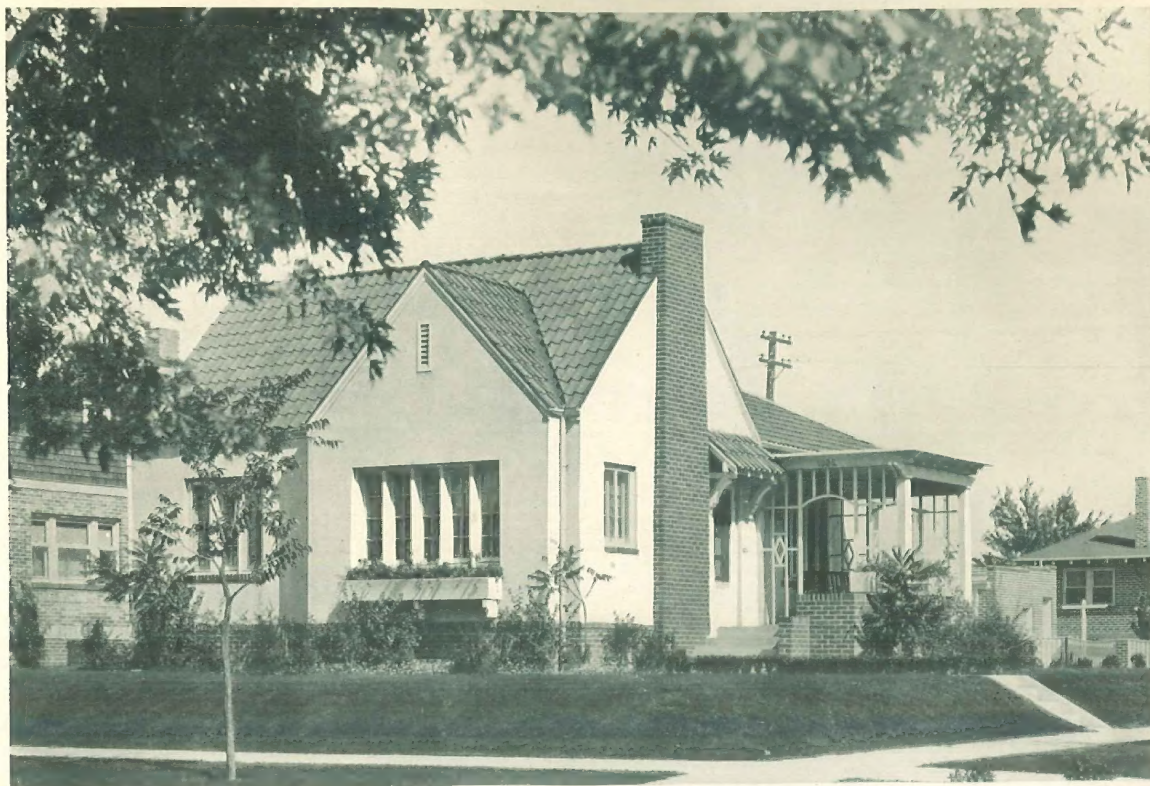


DESIGN 6-A-11



THE home shown above is designed upon straightforward economical lines, yet it has an agreeable atmosphere of dignity and substance. The entrance doorway is particularly pleasing. The handsome small paned glass door is recessed a little as in a frame, and the arch contrasts with the sharp pointed gable above. The wrought iron door lamps and the old-fashioned solid white shutters are small but important details that increase the charm of the exterior.

Other houses with practically the same plans but with different exteriors are illustrated on pages 34 and 35. Design 6-A-82 shown above has a similar plan.



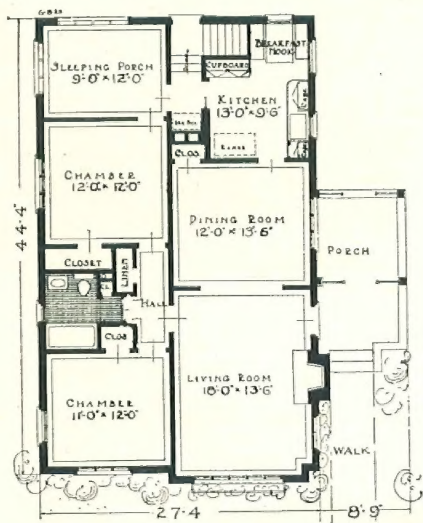
ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-B-20

HOUSES LIKE THIS NOT ACHIEVED BY GUESSWORK

Plan, Walls, Openings and Roof In Tune

THERE are two ways to build a bungalow that is different. One of these is to "jazz it up"—to build it full of trick balconies, overhanging cornices and arches. The other way is to put some architecture into it. The little house illustrated here is different because it has architecture.

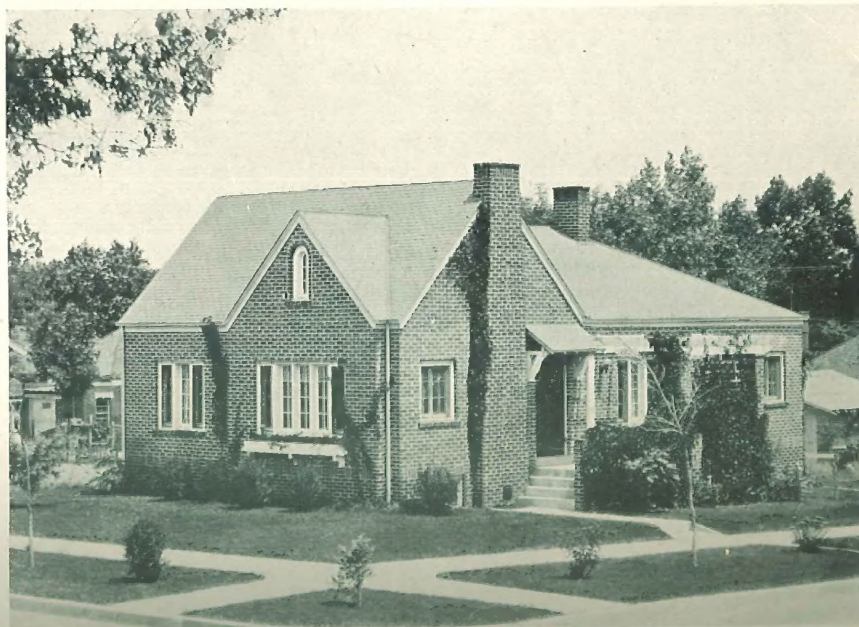
The plan, walls, openings, and roof all belong to each other. There is a fine, workable plan with the conveniences that modern American home life demand.



CONSTRUCTION FACTS

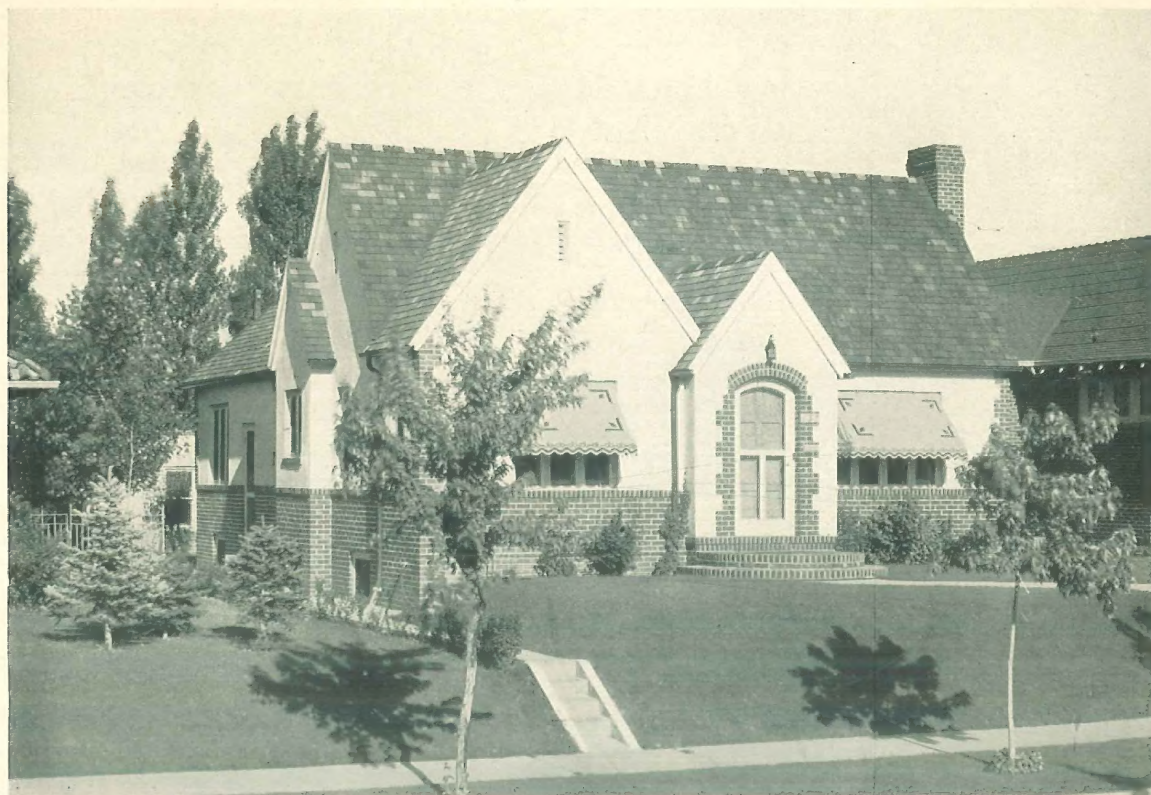
This plan provides six rooms and bath. One of the rooms is in reality a sleeping porch. In the kitchen there is a dining alcove. The door between the kitchen and rear entry slides into a pocket. The basement is planned for excavation below the kitchen. A full basement can be provided if desired.

Construction: hollow tile, stucco finish, brick base course. A 45 foot lot required.



DESIGN 6-B-19

Here is the same plan with solid brick walls. The house retains the same pleasing proportions and charm but with a different exterior finish. Designed to face West or North. Can be reversed for other facings.

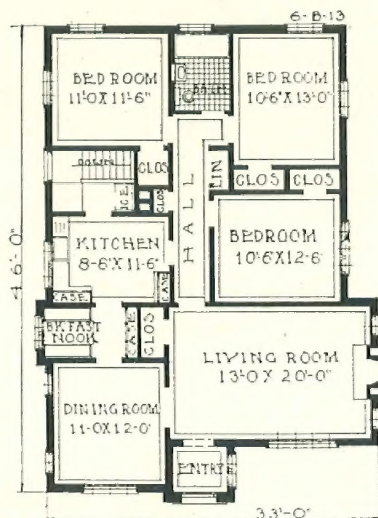


ARCHITECTS' SMALL HOUSE SERVICE BUREAU DESIGN 6-B-13

STEEP GABLES AND CASEMENT WINDOWS

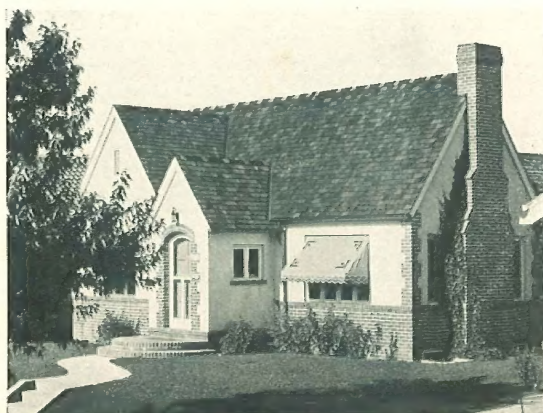
THE steep gables and casement windows of the exterior suggest the English cottage and make an unusual and interesting treatment for this bungalow. The house is most efficiently planned. It has the privacy of a two story house and the compactness of a bungalow. The living facilities are commodious. The design provides for three bedrooms, a large well lighted living room, a delightful dining room as well as a dining alcove, and a complete kitchen. The basement has an extra finished room, as well as a large den with a fireplace.

The living room fireplace is well located at the end of the living room where it is out of the main line of traffic. The well lighted entry way, the coat closet off the living room and the extra closet space in bedrooms and hall add additional values.



There are certain advantages that are possessed by bungalows which are not held in common with other types of small houses. One of the most important of these is gained from its low lying character. This gives it an air of hominess. It relieves the design of pretentiousness. Two story houses are often less expensive to build, but when they are of small size, the shallow depth often makes them seem unreasonably high. This, of course, is difficult to overcome since ceiling heights must be maintained. A bungalow such as this one lies close to the ground and, properly relieved with planting, may seem to be a part of the site itself. When you select a plan visualize the completed house in its setting. Get the picture of trees, terrace and garden and the views from the windows. Then make your choice a wise one.

One advantage belonging exclusively to the bungalow is the elimination of stair climbing. It is amazing how many trips one makes up and down the stairway in the course of a day. To many people this is not the least objectionable, but some housewives believe it not only tiring, but inconvenient. They prefer having the bedrooms and bath available without the intervention of a stairway.



The construction provides for exterior walls of brick. Tile may be substituted for that part of the wall for which the exterior finish is stucco. The suggested color scheme is red flash brick for base course and quoins with white stucco in floated finish and with woodwork painted blue green. The cornice is painted white and shingles in variegated tones of gray green and reddish brown.

QUESTIONS AND ANSWERS

*Twenty-Seven Questions from Prospective Home Builders with Brief Answers
These Questions Are Among Those Most Often Raised.*

GET GOOD PLASTERERS

Q.—What is the best way to avoid cracks in plaster?

A.—Most important factors are good foundations and good framing. After this the method of lathing is important. Lath should not be placed too close together. They should be wet. They should be reinforced at all interior angles with metal lath. The plaster itself must be high grade, put on in sufficient thickness. Good plastering requires good plasterers.

WET WALLS SPOIL FINISH

Q.—Time taken for the plaster to dry before other work is done seems to be lost. How long a period is required?

A.—No woodwork should be installed in a house while the plaster is drying out, no matter how long this takes. Woodwork will be ruined if it is put on damp plaster. A delay of two or three weeks or even twice as long is of little consequence in comparison to the benefits obtained by waiting.

FOR RESALE VALUE

Q.—What are the features that help to sell a small home?

A.—Desirable location is of the greatest importance. The plan should be of a type such as is commonly desired, providing a large living room with a fireplace, dining room, kitchen, dining alcove, and two or three bedrooms. The house should have sound construction so as to preserve the permanency of the building. You cannot sell a house to an observing person no matter how beautiful it may be if it is not well constructed. If you do not build the house extravagantly you can afford to sell it at a price which will interest the largest number of people.

FRAME JOISTS FOR PIPES

Q.—The plumber cut several joists near the middle to put in a pipe. Is this not dangerous? What can be done to fix it?

A.—In a properly planned building it is not necessary to cut joists. Excessive cutting of these members is dangerous. There should be no cut more than two feet from the bearing of a joist. No cuts should be allowed that materially affect the strength of the beam. Your contractor should not have permitted the plumber to cut the joists. It is his responsibility. Make him put in additional members. Call your building inspector's attention to the detail.

PREPARE WOOD FOR PAINT

Q.—How many coats of paint are necessary for interior woodwork and for exterior walls of houses? Are there certain rules to be followed in preparing new wood for painting?

A.—All outside woodwork should have at least three coats of paint. Inside woodwork may have three or more, depending upon what finish is desired. New wood for painting should be cleaned, and free from stains that may afterward show through the paint. All the knot holes should be sealed up with shellac so that the pitch will not afterward exude through the paint. It should be sandpapered down and made perfectly smooth and clean. Above all it must be dry.

KNOCKING RADIATORS

Q.—Can you tell why radiators knock?

A.—The most common fault is lack of definite drainage in the piping system. If the pipes are pitched so that the water of condensation cannot drain from the radiators, it will stand in pools through which steam will be driven with explosive force. Radiators sometimes knock because the valves are not in working order or are not fully open.

WHICH HEATING PLANT

Q.—Various heating concerns offer heating plants that differ so much in price and quality that it is difficult to know how to make a choice. What is the answer?

A.—Make a choice of heating plant type based on your own preference. They will all work. Some are more flexible than others, some more uniform, some take more coal, etc., but buy the product of a reputable manufacturer. The cheap heating devices and the poor methods of installation are not worth what they cost. Talk it over with an architect.

COSTLY INSULATION

Q.—What is the best type of insulation for a house that has to be sold cheap?

A.—Insulation might just as well be omitted if it is not of good quality and put on right. The poor man who buys a house that has not been properly insulated on the representation that some insulation has been used, pays a double price for his poverty.

INSULATING EFFICIENCY

Q.—Please give information about the different types of insulating materials. How do they compare with each other with regard to efficiency?

A.—Insulating materials may be classified under three headings. One is a mattress, a loosely bound pack of insulating material usually backed on both sides with heavy paper. Another type is a semi-rigid form that does not require paper backing. Either

of these two types is placed between the studs and ceiling joists. The third type is a wall board unit of rigid form nailed over studs and joists. As to efficiency, tests have been made by laboratories of Universities and by the Department of Standards, United States Government. Reports of these tests may be obtained from these sources.

DEEP JOISTS FAR BETTER

Q.—Plans call for 2x10 floor joists for the second story. The span is 12 feet. The wood is to be pine. Could 2x8's be substituted with safety?

A.—2x8 joists for a 12 foot span are barely sufficient to avoid cracking of the plaster. If the floor is unduly loaded, or if there are partitions to support, this size is too small. You spend hardly enough additional money for 2x10 joists to find it in your lumber bill. Why take a chance?

STUCCO ON TILE WALLS

Q.—What is the best way to build a tile wall with stucco finish?

A.—Get well burned tile, three cells in thickness and either strip them on the inside before plastering, or else use tile in which the mortar joint is interrupted. Set them in good mortar, use high grade stucco for the finish put on strictly in accordance with the manufacturer's directions.

MODERN BRACED FRAME

Q.—A house in New England built 150 years ago is still in good condition. Many of the wooden houses built much more recently are not in as good condition as this old home. Why?

A. This old home may have been built of better materials, but more especially it was cross braced. The walls and floors were bridged so that they could not get out of alinement. Modern construction of small houses has again appropriated to its use the braced frame principle of the old Colonial building whereby diagonal pieces are run across the studs at the corners of the building. The floor joists are adequately bridged to hold them in alinement. Wooden houses built in this way have their usefulness greatly extended. Depreciation is reduced. The extra cost is negligible. Instruct your contractor to put diagonal pieces in all exterior wooden walls.

DON'T BUILD ON A FILL

Q.—Neighbors have filled up with ashes where was once a swamp. Will it be all right to build on this?

A.—Not unless foundations go down to solid ground. We advise you to build elsewhere.

DAMP BASEMENT WALLS

Q.—How can dampness be kept from seeping through cellar walls?

A.—See that the ground is pitched away from the building at the grade. Be sure that the rain conductors are properly connected to the sewer or else that water is discharged away from the building. Apply waterproofing compound to the outside surface of your walls. Set tile footing drains.

KEEP WOOD POSTS DRY

Q.—Should wooden bearing posts in the basement be set directly on the footings and with the cement basement floor worked up around them, or should the posts be on the floor?

A.—Neither of these methods is correct. Bearing posts should be set on foundations raised at least four inches above the finished basement floor. Otherwise they will rot and let the framing down, thus seriously damaging the building.

FOOTINGS FOR ALL WALLS

Q.—It is claimed that footings are not necessary under foundation walls that are a foot or more in thickness. How about it?

A.—Footings should be used. They are an insurance of a stable wall. They should be at least eight inches thick and project from each side of the wall five or six inches.

SOUND SPECIFICATIONS

Q.—In a set of specifications there are blank spaces to be filled out. How can a home builder, knowing little about building, complete these specifications and select the right material?

A.—Employ an architect to advise you, or consult with an experienced contractor, who has a reputation for high grade work. Use only those materials made by manufacturers who guarantee satisfaction. If you employ an architect have him also inspect the building during the process of construction. This will undoubtedly save you time and money and be an assurance to you of getting your money's worth.

FORMS OF AGREEMENT

Q.—Where can standard contract forms to be used in building a house be obtained?

A.—These can be obtained from almost any first class stationer. If your stationer does not carry them, write to The American Institute of Architects, Octagon House, Washington, D. C. Send 15c for each copy ordered.

DRAWINGS NOT ENOUGH

Q.—Are specifications necessary if one has a complete set of working drawings?

A.—The drawings tell what kind of building is to be built, but they do not tell how it is to be done. They carry only part of the information needed by the contractor. On the other hand, the specifications tell

how all the construction is to be followed out. They tell what quality of materials is to be used. They also include general agreements which you must have with your contractor, such as liability for damage, insurance, cleaning up the premises, methods of payment, and so on. You invite trouble by building without a complete specification. Employ an architect to help you draw them up.

PLAN BEFORE BUILDING

Q.—What is the best kind of plan for a foundation already set 38x26? Where can I get it?

A.—You have the cart before the horse, as you probably already know. The foundation is supposed to fit the house, not the reverse. Employ an architect. He may be able to work out a plan since the dimensions you give for your foundation are not unusual. Do no more work on the walls until the plans are finished.

WHAT IS PRACTICAL?

Q.—A speculative builder said the other day that a "practical house" costs less than an "architectural house." Is this true? If so, why cannot an architectural house be practical?

A.—There is a misuse of terms here. True architecture is essentially practical. A real architectural house is one that has a commodious plan, substantial construction, and beauty of proportion. It would be more correct to distinguish between houses as "architectural" or "impractical." Adding ornamentation will of course increase expense, but the absence or presence of ornamentation is not essential to true architecture. The so-called "practical" houses are often poorly designed as to plan and section and poorly built. The construction may be cheap at the beginning but the final cost is high.

HOW MUCH FOR A LOT?

Q.—How much should you spend for a lot?

A.—The answer depends largely on the extent to which the lot is improved. If all the improvements are in, such as sidewalks, water, electricity, gas, sewage, and so on, the cost of the lot may reasonably run up to 20 per cent of the total cost of the house and lot. It should not exceed 25 per cent. If these improvements are not in, the lot may sometimes be obtained for a price not in excess of 10 per cent of the total cost. The principle is not to put an expensive house on a cheap lot or a cheap house on an expensive lot. A well constructed house on a cheap lot is more desirable than a poorly built house on an expensive property. Do not neglect the character of the neighborhood in choosing a lot.

LOT FRONTAGE VALUES

Q.—In selecting a home lot, how can one be sure that it is worth the money asked and that it will not decrease in value later on?

A.—See what the restrictions are. Find out whether anybody can build a shack nearby or a store or anything else that would depreciate properties generally about the location. Note the trend of the demand for lots such as you are thinking of buying. Make sure of the proper present valuation of the proposed lot by finding out what the adjoining properties are held for. Get a lot that is high and dry, preferably with trees on it. Future improvements such as sewer, water, paving, and so on will have to be added to the value of the lot. How much of this do you get now?

FIRST MORTGAGE MONEY

Q.—What is the usual amount of a first mortgage?

A.—The maximum sum to be borrowed in this way depends upon the kind of property and the character of the borrower. Some types of financing companies lend more than others. The amount varies between 50 and 75 per cent.

BUILDING AND LOAN

Q.—Please give information concerning the purpose and operation of building and loan associations.

A.—This is a company particularly designed to help home builders finance their homes. It is built on the principle of mutual interest. Persons with money to invest pay into the common treasury monthly sums as installments on the purchase price of stock in the company. Other persons building homes borrow from this general fund on first mortgages and pay back both principal and interest in monthly installments. This is considered by investment experts one of the best ways of financing a home, of saving money.

HOME BUILDING RISK

Q.—How much risk is there in building a home?

A.—There is a story of a man who years ago came to Broadway at Times Square, and who decided to wait until he believed it safe before crossing the crowded street. Twenty years have passed and it is said that he is still waiting there for the psychological moment. Building a house is a safe proposition if you do not allow yourself to be carried away by fads and fancies. Follow the middle of the road and you cannot be pushed into a bad bargain. Do not overstep your limits to pay. If you observe the rules of common sense there is not much hazard in building a home.

BE SURE OF THE COST

Q.—Please advise the way to pay off the contractor as the building is erected when the owner is supplying the money. What reduction is made for cash?

A. Houses are customarily built for cash. Even though the money is borrowed by the owner, he pays the builder at definite intervals as the building progresses. The general arrangement is to pay 85 per cent of the cost of materials and labor supplied to the job during the previous 30 days. The final 15 per cent is paid 30 days after the house has been finished.